BLM LIBRARY
88050020

UNIVERSITY OF WYOMING
COOPERATIVE RESEARCH REPORT
TO THE BUREAU OF LAND MANAGEMENT

ANNUAL PROGRESS REPORT
1970

ARID LAND ECOLOGY RESEARCH

SUBMITTED BY WYOMING AGRICULTURAL EXPERIMENT STATION

APRIL 1971

ID: ~~88019411~~
88050020

GB
611
.A74
1970

ARID LAND ECOLOGY RESEARCH[1]
1970 ANNUAL PROGRESS REPORT

by

H. G. Fisser, R. E. Ries[2]

Table of Contents

Page

Section I Soil moisture and temperature studies - Discussion and 1970 Results. 1

Section II Soil moisture and temperature studies on microclimate study sites in the Big Horn Basin - Discussion, Location of Study Sites, Procedures, and 1970 Results. 3

Section III Precipitation Pattern Study 9

Section IV Exclosure studies (production, cover, and precipitation phase. 16

BUREAU OF LAND MANAGEMENT LIBRARY
Denver, Colorado
~~88019411~~

---

[1] Published with the approval of the Director, Wyoming Agricultural Experiment Station, as Scientific Report No. 350 .

[2] Professor of Range Management and Graduate Research Assistant, Range Management Section, University of Wyoming, Laramie, respectively.

Bureau of Land Management
Library
Bldg. 50, Denver Federal Center
Denver, CO 80225

SECTION I

SOIL MOISTURE AND TEMPERATURE STUDIES
1970

Introduction

Studies to evaluate soil moisture and temperature characteristics as influenced by sagebrush control and livestock grazing were initiated in 1963. Soil moisture was determined by use of a neutron scattering meter. Permanent metal access tubes, 2" in diameter, were set into the ground to a depth of 5'. The neutron probe measures the amount of water in the soil through an area of about 4' in diameter. Soil temperatures were measured with thermistor probes placed at 8, 15 and 22" below the soil surface. Lead cables from the buried sensitive elements were connected to a meter for an instantaneous reading of temperature. Surface temperatures were read with a portable probe. At the Smilo and Granite Mountain Exclosures two access tubes were located in each of the following treatments at each study site: Inside Sagebrush Sprayed, Inside Sagebrush Non-Sprayed, Outside Sagebrush Sprayed and Outside Sagebrush Non-Sprayed. At the Cumberland #1 and Cumberland #3 Exclosures three access tubes were placed in each of the two treatments inside the exclosures: Sagebrush Sprayed and Sagebrush Non-Sprayed. Precipitation was determined by use of can-type gauges and recorded each time soil moisture and soil temperature determinations were measured.

1970 Results

Soil moisture, temperature, and precipitation data were scheduled to be recorded on four dates at the Granite Mountain and Smilo Exclosure during 1970 - April 15, July 1, September 1, October 15. Precipitation and soil moisture data for the Cumberland #1 and Cumberland #3 Exclosures were taken during the same periods.

Due to the acquisition of new neutron probes and metering devices, the conversion factors for determining inches of soil moisture are not yet available. The data collected during 1970 will be presented in a later report after conversion to a more meaningful form.

Recorded precipitation from throughout the Big Horn Basin was, in general, lower during 1970 than long term averages. This seems to have been caused primarily by a reduction in precipitation during the winter period. Based on inspection of raw data from the neutron probe, soil moisture apparently followed this trend at the Smilo Exclosure. At the time of the April 15, 1970 reading, soil moisture was lower than usual, especially in the upper 18" of the soil. Concomitant with the reduction in soil moisture, temperatures in the upper 15" of soil were two to four degrees warmer than expected. Rather frequent showers during the spring and summer recharged the soils to about average moisture levels.

At the Granite Mountain site during 1970 precipitation was about 3/4" above the seven year average. A heavy snow storm in early April closed the road and soil moisture and temperature were not obtained until July. Soil moisture tended to be a little lower than usual, especially in the sagebrush-spray sites. Soil temperatures were slightly less than the long term means.

At the Cumberland #1 and #3 exclosures in the Kemmerer area, annual precipitation during 1970, was approximately 1.5" less than the long term mean. Soil moisture in the upper 18" of soil was considerably below average, especially during the early spring. This difference was not as evident at the greater depths in the sprayed shrub control sites as on the native sites and is apparently a reflection of greater moisture use by shrubs as compared to grasses, at depths from two to five feet.

SECTION II

SOIL MOISTURE AND TEMPERATURE STUDIES ON MICROCLIMATIC STUDY SITES IN THE BIG HORN BASIN

1970

Introduction

Various studies have been made of salt desert areas. Of special interest have been the distinct boundaries between plant communities of almost pure stands of single species. Several workers have shown that certain soil properties are related to these distinct changes in plant communities but no one characteristic in itself is sufficient to cause this change. Each of these studies has hypothesized that the cause is apparently due to plant-soil moisture relationships since these recorded changes involve texture, salts, soil depth, and other soil factors associated with soil moisture. Therefore, a University of Wyoming-Bureau of Land Management cooperative study was initiated in the Big Horn Basin of north central Wyoming in June, 1965, to determine soil moisture-soil temperature regimes of several salt desert plant communities.

Location of Study Sites

The general study area is located on state and federal land in the Big Horn Basin. A map of study site locations was presented in the 1968 Arid Land Ecology Report. Specifically, Study Area I is east of Manderson and contains two study communities; a Nuttall's saltbush (Atriplex nutallii S. Wats.) community and a big sagebrush (Artemisia tridentata Nutt. subsp. vaseyana (Rydb.) Beetle) community. Area II is east of Highway 20 between Worland and Manderson and contains three study communities; a saltbush community, a big sagebrush community, and a bud sagebrush (Artemisia spinescens D. C. Eat.) community. Areas III and IV are located on the 15 Mile Creek drainage northwest of Worland. Area III is adjacent to the experimental steer pastures and has two study communities, a saltbush community and a birdfoot sagebush (Artemisia petatifida

Nutt.). Area IV has two study communities, a saltbush community and a spiny hopsage (Grayia spinosa (Hook) Msq.) community. Area V is northeast of Area II and contains a saltbush community and a winterfat (Eurotia lanata (Pursh) Msq.) community. This last mentioned area was installed in June, 1966, the others during June, 1965.

Procedures

Three steel tubes, two inches in diameter, were installed to 5 feet at varying intervals within each plant community for soil moisture determinations. These determinations are made by neutron scattering instrument at 6, 12, 18, 24, 36, 48, and 60 inch depths within each tube. Recordings were made monthly during the winter and twice monthly during the growing season of 1967. During 1968, data were recorded four times in coordination with rain gauge readings. These recordings were converted to inches of water per one foot of soil by use of the Philco 2000 computer.

Soil temperature measurements were read each time soil moisture recordings are made. Soil thermistors and a temperature sensing probe were used to record temperatures at 1, 8, 15, and 22 inch depths as recorded from a Tele-thermometer.

During the fall of 1970 eight exclosures were constructed by the BLM and the University which encompass all of the data collection sites. The new names of the exclosures and corresponding site information as used previously are given below.

New Exclosure Name	County	Previous Site Description	
Basin Flats Exc.	Big Horn	Study Area I	Manderson ATNU
Basin Flats Exc.	Big Horn	Study Area I	Manderson ARTR
Tolman Ridge Exc.	Washakie	Study Area II	East Worland ATNU
Sand Creek Exc.	Washakie	Study Area II	East Worland ARSP
Sand Creek Exc.	Washakie	Study Area II	East Worland ARTR
Wilwood Exc.	Washakie	Study Area III	Fifteen Mile ATNU
Chalk Exc.	Washakie	Study Area III	Fifteen Mile ARPE

New Exclosure Name	County	Previous Site Description	
Hawk Exc.	Washakie	Study Area IV	Burnt Wagon ATNU
Hawk Exc.	Washakie	Study Area IV	Burnt Wagon GRSP
Sheldon Gulch Exc.	Big Horn	Study Area V	Shell ATNU
Potato Ridge Exc.	Big Horn	Study Area V	Shell EULA

Data to be collected within the exclosures are precipitation, soil moisture and soil temperature, as well as vegetation cover and composition from permanent plot transects of 1' x 1' quadrats. Comparisons will be determined with respect to the non-use condition within the exclosures and with similar sites outside the exclosure which are grazed.

During the spring of 1970 Robert E. Steger completed his Ph.D. dissertation[1] which involved the evaluation of data obtained from these sites. The abstract and summary portions of the dissertation are presented below.

ABSTRACT
(Steger 1970)

A soil moisture and temperature study was conducted on six Salt Desert shrub plant communities in Northcentral Wyoming, in 1965 through 1967. The objectives of this study were to characterize the soil moisture and soil temperature relationships and to study certain edaphic and floristic characteristics of these communities.

The depth of wetting and the amount of available water in individual plant communities were found to rank in the order of Nuttall saltbush, birdfoot sagewort, big sagebrush and spiny hopsage. This listing was from the driest to the wettest plant community. Soil moisture relationships were found to be affected

---

[1] Steger, R. E. 1970. Soil moisture and temperature relationships of six salt desert shrub communities in northcentral Wyoming. Univ. of Wyoming Ph.D. Dissertation. 117 pp.

by soil characteristics such as texture and salt content which in turn affected moisture holding capacity, infiltration and percolation. Plant characteristics of active plant growth, stage of growth, root depth and type were found to be of importance.

Soil temperature was important due to its effect on the initiation of plant activity and the effect of frozen soils on soil moisture.

Plant cover and the number of species occurring in a plant community increased as soil moisture increased. Plants of similar species or even similar life forms were found to be competitors.

SUMMARY
(Steger 1970)

A soil moisture and temperature study was conducted on Nuttall saltbush, birdfoot sagewort, winterfat, bud sagewort, big sagebrush and spiny hopsage plant communities during 1965, 1966 and 1967. The study was conducted in northcentral Wyoming.

Soil moisture differences were reflected between plant communities for both depth of wetting and amount of available water. The Nuttall saltbush community occupied the driest site where moisture penetrated only to an approximate 6 inch depth. Birdfoot sagewort showed moisture changes at 6 and 12 inch depths; winterfat at 6, 12 and 18 inches; bud sagewort at 6, 12, 18 and 24 inches; big sagebrush at 6 through 24 inches; and spiny hopsage at 6 through 48 inches. The amount of available water corresponded to the same ranking.

Soil texture, structure and salt contents were found to effect the soil moisture supply of all plant communities. The finer textured soils of the Nuttall saltbush plant community had a higher total moisture holding capacity. However, due to salt and texture, the water was held with greater tension. The combined effect of silt (soil texture) and salts resulted in conditions unfavorable for moisture infiltration and percolation. These factors resulted in the driest site studied. On the other hand, the coarse textured soil and low salt content of the spiny hopsage community were conditions favorable for moisture infiltration, percolation, and release due to low tensions of stress. These conditions resulted in more mesic soil moisture relationships. Also, the presence of an indurate sandstone layer that restricted the depth of plant rooting was found to store water for plant use. The other plant communities were intermediate between these two extremes.

Moisture discharge and recharge were found to be regulated by periods of plant activity and soil temperatures. The discharge of soil moisture corresponded with the onset of apparent plant growth. The period of plant growth was similar for all communities except bud sagewort and spiny hopsage which dropped leaves earlier. Maximum discharge occurred at the period of plant fruiting and flowering. Recharge of soil moisture occurred after plant growth ceased in late summer. Two exceptions to this were found in Nuttall saltbush and birdfoot sagewort which could not recharge soil moisture during the period of frozen soils when a 0.20 inch loss of water was recorded.

The depth of wetting and the presence of soil moisture at depths below rooting appeared to be of great importance. The moisture below the root zones was shown to be readily available for plant use. Depth of rooting was a result of two factors, the presence of a restrictive soil layer or the depth that soil moisture commonly reached.

Soil temperature recordings strongly reflected the time of day that readings were made. The importance of soil temperatures was shown in relation to the initiation of plant growth, inhibiting water movement into frozen soils, and loss of water during freezing periods. All plant communities, except bud sagewort, started apparent growth at a 10^{o} C. temperature at an 8 inch depth. Bud sagewort started growth earlier. The modifying effect of soil moisture on soil temperature was shown by cooler temperatures during the wetter year of 1967.

Percent plant cover increased in direct response to available soil moisture. One exception was the almost pure stand of Nuttall saltbush, which was considered the driest site, but did not have the lowest values. The fact that five species grew in association with this plant indicated that this plant was ideally adapted to the conditions and made maximum use of the moisture. The variety and number of species increased directly with an increase in available water.

Individuals of the same species and similar life forms were shown to be competitors. This hypothesis was based on the distance between individual plants and individual plant sizes. Grasses and cacti were found to occupy areas in closest association to the shrubs and half shrubs. Plants of a similar species surrounding a central plant were found to be smaller.

SECTION III

PRECIPITATION PATTERN STUDY

1970

Introduction

During 1960 over 70 gauges were installed at 6 to 12 mile intervals throughout the Big Horn and Wind River Basins. Since that time approximately 20 gauges in the Big Horn Basin have been discontinued and some 80 gauges have been installed at various exclosures and study sites throughout western Wyoming. These gauges are cans, 12" in height and approximately 2.75" in diameter. This diameter allows reading of precipitation by merely pouring the water into a 100 ml cylinder, and converting ml readings to inches of rainfall. One hundred ml is equal to 1" of precipitation. The gauges are read on the same four dates each year--April 15, July 1, September 1, and October 15. Personnel of the Worland, Lander, Rawlins, Casper and Rock Springs Districts of the Bureau of Land Management cooperate with the University in reading the instruments. Some gauges are also read by personnel of the Soil Conservation Service and the Wyoming Game and Fish Commission.

The U. S. Weather Bureau and the U. S. Geological Survey precipitation data are used to provide additional information from other locations. This cooperative effort provides an effective network for future evaluation of precipitation patterns. A map of precipitation gauge locations was presented in the 1963 report.

1970 Results

Precipitation data for 1970 from the University gauges are presented in Table 1; those from the U. S. Weather Bureau stations are presented in Table II.

Winter precipitation for the period October 15, 1969 through April 15, 1970 tended to be lower than normal as did also that for the spring period from

April 15 through July 1, 1970. Summer precipitation tended to equal or slightly exceed average values but appeared to be of little value for herbage production. Fall precipitation from September 1 through October 15, 1970 was somewhat greater than average and may have a beneficial influence on spring growth in 1971.

Except for the area in the immediate vicinity of Cody, the precipitation in the Big Horn Basin was about 1 1/2" less than usual for the year. Annual forbs and annual grasses were unable to grow well because of the precipitation and temperature conditions during the early growing season and as a result were rather sparse and stunted as compared to the previous two years. Perennial grasses grew moderately well but, because of several extended dry, warm periods from April through June, did not produce as much herbage as has been observed during some past years.

The situation in the areas to the south of the Big Horn Basin was similar with most lower elevation sites receiving less than average amounts of precipitation. A narrow strip extending eastward from Lander along the Wind River mountains received slightly greater than average amounts of moisture; most of which occurred during spring.

Table 1. Precipitation data for 1970 from University of Wyoming gauges for the periods October 15-April 15 (winter), April 15-July 1 (spring), July 1-Sept. 1 (summer) and September 1-October 15 (fall).

		Precipitation Periods and Data Collection Dates						
Rain Gauge No.	Rain Gauge Name	Winter Apr. 15 '70	Spring July 1 '70	Summer Sept. 1 '70	Fall Oct. 15 '70	Total 70'	Long-Term Average	No. of years
	Big Horn County							
123	Big Flat Exc.	1.50	2.70	.51	.44	5.15	6.49	3
24	Halogeton pastures	1.37	.35a	1.77a	1.31	4.80	5.40	11
12	Horse Creek Exc.	4.93	3.40	1.03	1.95	11.31	11.87	10
113	Horse Haven Exc.	1.60b	2.80b	.59	.42	5.41	7.30	4
21	Kane Deer Exc.	4.90	3.96	.25	2.58	11.69	12.78	6
149	Kane G.R.I. Exc.	4.86	3.95	.26	2.92	11.99	15.15	3
116	Kane Seed Exc.	2.20	2.15	.25	1.85	6.45	7.78	3
148	Medicine Lodge G.R.I. Exc.	6.80	2.75	.57	1.67	11.79	14.61	3
23	Sheep Springs Exc.	3.30c	6.00c	.76	1.40	11.46	14.18	10
112	Shell Study Area	d	d	d	d	d	8.63	3
	Carbon County							
27	Little Robber #5 Exc.	4.42	2.67	1.37	2.66	11.12	10.09	9
127	Oppenheimer (RG#4)	3.58	2.60	.97	2.66	9.81	9.16	3
128	Oppenheimer Exc. #1 (RG#5)	4.10	2.77	1.12	2.70	10.69	10.22	3
129	Oppenheimer C (RG#6)	3.06	2.55	.92	2.47	9.00	8.50	3
124	Poison Butte Exc. #1 (RG #1)	4.37	2.61	1.00	2.85	10.83	11.17	3
125	Poison Butte Exc. #2 (RG #2)	5.16	2.98	1.05	2.90	12.09	12.00	3
126	Poison Butte Oppen.E (RG #3)	3.41	2.56	.68	2.55	9.20	9.56	3
130	Powder Rim C Exc. #1 (RG #7)	3.26	2.70	1.33	2.06	9.35	8.45	3
26	Red Wash #1 Exc.	3.11	2.14	1.57	1.38	8.20	8.70	9
25	Red Wash #3 Exc.	3.97	2.50	1.91	1.08	9.46	9.06	9
	Fremont County							
52	Alkali Flats	2.47	4.60	.60	1.00	7.77	8.54	10
5	Ant Plot Exc. (Lander)	3.34	3.12	.30b	.78	7.54	8.44	10
157	Bar X	1.60c	2.36c	.81	.52	5.29	5.72	2
89	Birdseye Ranch	2.13	1.76	.80	.45	5.14	7.80	7
10	Boysen Reservoir Exc.	.86	1.90	.27	.50	3.53	4.71	11
85	Bridger Creek	1.35c	2.38	.85	1.35	5.93	10.64	8
49	Canyon Creek	1.87	5.35	.23	.40	7.85	8.35	9
59	Carter Divide Exc.	2.28	2.84	.39	1.00	6.51	7.97	10
88	Comet Mine	4.50c	3.90	.85	1.40	10.65	11.33	8
60	Dishpan Butte #1 Exc.	7.21	4.89	.70	.72	13.52	10.39	9
61	Dishpan Butte #2 Exc.	4.01	5.48	.99	.70	11.18	9.49	9
86	Dry Creek	2.40	2.44	.38	.15	5.37	7.10	10
58	Empty Cartridge Exc.	2.17	3.24	.70b	.60	6.71	7.71	8
55	Fraser Seed Plot	1.40	5.22	.30	.40	7.32	8.14	8
48	Fuller Seed Plot	2.40	2.50	.23	1.60	6.73	8.37	10
46	Gibbs Butte	1.16	2.65	.20	.42	4.43	6.93	10
6	Granite Mountain Exc.	4.05c	4.00c	.52	.99	9.56	8.73	7
62	Hall Creek Divide Exc.	5.92	4.63	.90	1.12	12.57	11.24	10

Table 1, Continued

		Precipitation Periods and Data Collection Dates						
Rain Gauge No.	Name	Apr.15 '70 winter	July 1 '70 spring	Sept.1 '70 summer	Oct.15 '70 fall	1970 Total	Long-Term Average	No. of years
87	Hoodoo Creek	1.40	1.70	.15	.60	3.85	5.79	10
64	Hudson	2.76	3.30	.88	.50	7.44	8.58	10
68	Johnson	1.55	2.90	.80	.35	5.60	7.48	8
63	Little Popo Agie	3.11	3.11	.55	.88	7.65	10.60	10
56	Logan #1 Exc.	2.97	3.91	.39	.90	8.17	8.67	10
57	Logan #2 Exc.	2.37	4.58	1.36	.90	9.21	8.49	10
16	Lower Gov't. Draw Exc.	5.44	4.48	.73	1.03	11.68	10.36	10
81	Mack Ranch	d	d	d	d	d	7.69	7
67	Madden	2.38	3.35	.58	1.13	7.44	10.54	9
14	McGraw Flat Exc.	5.00c	4.04c	.96	.43	10.43	9.42	10
47	Muskrat Creek	1.75	2.35b	.10	.50	4.70	6.69	9
50	Muskrat #5 Exc.	3.16	4.46	.50	1.10	9.22	8.43	10
51	Poison Creek	1.60	3.20	.27	.26	5.33	7.70	8
80	Poison Draw	1.40	1.88	.80	1.10b	5.18	7.45	10
65	Sand Draw	3.76	3.25	.79	.65	8.45	8.35	9
11	Sweetwater Exc.	6.88	4.00	.90b	.55b	12.33	8.02	8
9	Upper Gov't. Draw Exc.	4.03	3.72	.92	.82	9.49	8.16	10
	Hot Springs County							
117	Big Bend Exc.	2.88	5.18	.26	.95	9.27	9.40	3
76	Cochran Exc.	2.91	3.90	.60	.80	8.21	10.10	10
77	Kirby Creek Exc.	3.25	3.46	.60	.56	7.87	8.72	8
111	Lower Enos Creek Exc.	2.00c	3.50c	.85	2.32	8.67	9.82	3
22	LU Juniper Study	4.00c	6.43c	.97	1.70	13.10	14.88	5
75	Sand Gulch Exc.	2.73	3.66	.62	.47	7.48	9.02	9
	Lincoln County							
32	Cumberland #2	2.00c	2.90c	.95	2.30	8.15	9.14	7
33	Cumberland #3	3.18	2.95	.63	2.71	9.47	10.95	7
35	Elk Mountain Pit	3.00c	3.90c	.65	1.99	9.54	8.80	6
	Natrona County							
143	Arminto Exc.	2.18	3.10	.94	.58	6.80	9.25	4
109	Bolton Creek Exc.	3.00b	5.00b	.75	1.51	10.26	8.89	3
141	Donlin Exc.	1.42	2.50	.96	.39	5.27	7.23	3
110	E K Exc.	2.18	3.10	.94	.58	6.80	9.25	4
142	Merino Exc.	3.00c	6.05c	1.17	.40	10.62	9.56	3
108	Mud Springs Exc.	3.50c	4.30c	1.35	2.53	11.68	11.11	3
107	Owl Draw Exc.	3.25c	4.13c	.88	2.15	10.41	9.47	4
144	Poison Spider Exc.	3.00c	6.95c	1.62	.36	11.93	8.84	3
106	Stinking Creek Exc.	2.60c	5.00	1.00	1.12	9.72	9.21	4
	Park County							
147	Big Sage Exc.	1.28	3.90	.84	1.95	7.97	7.00	2
146	Big Sky Exc.	2.83	4.61	.64	2.32	10.40	8.63	2
100	Buffalo Basin Exc.	2.00	5.15	1.00	2.70	10.85	11.08	4
145	Hill Top Springs	4.65	5.92	1.25b	3.32	15.14	12.05	2

Table 1, Continued

		Precipitation Periods and Data Collection Dates						
Rain Gauge No.	Rain Gauge Name	Winter Apr. 15 '70	Spring July 1 '70	Summer Sept. 1 '70	Fall Oct. 15 '70	Total 1970	Long Term Average	No. of years
	Sweetwater County							
20	Black Mountain Exc.	2.80c	4.35c	.87	1.24	9.26	7.62	9
30	Boars Tusk Exc..	2.12	2.74	.68	1.10	6.64	7.42	10
18	Cedar Mountain Exc.	3.00c	5.01c	1.39	1.44	10.84	8.80	9
102	Chandler Simpson Well	1.73	2.27	.33	1.05	5.38	4.98	3
103	Daley Hay Corral	2.17	3.95	.37	1.38	7.87	6.56	4
2	Farson Exc.	1.31	2.07	.36	.97	4.71	6.29	9
95	Farson Guzzler #1	2.19	2.91	.97	1.66	7.73	7.59	6
96	Farson Guzzler #2	2.71	3.71	1.15	1.10	8.67	8.51	6
97	Farson Guzzler #3	1.79	2.68	.44	1.39	6.30	6.96	6
98	Farson Guzzler #4	2.00	2.25	.47	1.25	5.97	7.31	6
99	Farson Guzzler #5	1.52	2.04	1.01	.97	5.54	6.85	6
122	Firehole Guzzler #10	3.95	5.61	1.41	1.68	12.65	11.55	3
151	Firehole Guzzler #11	3.60	5.77	1.06	1.58	12.01	11.04	2
152	Firehole Guzzler #12	3.68	5.93	1.38	1.89	12.88	11.22	2
153	Firehole Guzzler #13	3.74	7.27	.85	1.70	13.56	12.10	2
104	J. O. Headquarters	2.13c	3.83c	1.04	1.53	8.53	7.03	5
105	Len Hay Corral	2.48c	3.09c	1.03	1.44	8.04	6.62	5
	Washakie County							
162	Little Amer. Guzzler #20	2.19	3.51	1.19	1.92	8.81	8.81	1
163	Little Amer. Guzzler #21	1.89	3.02	.95	1.78	7.64	7.64	1
164	Little Amer. Guzzler #22	1.91	3.13	.67	1.69	7.40	7.40	1
165	Little Amer. Guzzler #23	1.42	2.79	.72	1.69	6.62	6.62	1
159	Little Bitter Cr. Guzzler #17	2.99	5.69	.93	1.87	11.48	11.48	1
160	Little Bitter Cr. Guzzler #18	4.15	6.09	1.10	1.64	12.98	12.98	1
	Sweetwater County							
131	Powder Rim D Exc. (RG #8)	2.97	2.64	.66	2.15	8.42	8.02	3
132	Powder Rim D-C (RG #9)	3.16	2.41	1.90	2.38	9.82	8.96	3
133	Powder Rim D-C-B (RG #10)	2.86	2.28	1.76	2.07	8.97	8.00	3
134	Powder Rim D-B (RG #11)	2.64	2.19	.47	2.02	7.32	7.68	3
135	Powder Rim B-Stateline (RG#12)	3.73	2.36	.77	2.54	9.40	9.85	3
136	Powder Rim B Exc. #1 (RG #13)	3.16	3.32	.82	2.16	9.46	8.94	3
137	Powder Rim B Exc. #2 (RG #14)	5.13	3.37	.48	2.49	11.47	11.72	3
138	Powder Rim A-B (RG #15)	3.30	2.98	.49	2.31	9.08	10.08	3
139	Powder Rim A-Exc. #1 (RG #16)	3.13	3.34	.58	2.36	9.41	9.74	3
140	Powder Rim A (RG #17)	1.84	2.94	.43	1.84	7.05	7.91	3
118	Power Line Guzzler #7	3.27	3.32	1.07	.79	8.45	9.02	3
119	Power Line Guzzler #7	2.76	3.82	1.28	1.17	9.03	8.95	3
19	Radio Tower Exc.	1.85c	3.97c	.40	1.01	7.23	7.09	10
28	Red Wash #2 Exc.	2.40	2.50	3.04	.81	8.75	7.56	9
	Washakie County							
161	Sage Creek Guzzler #19	4.67	6.19	1.20	2.14	14.20	14.20	1

Table 1, Continued

		Precipitation Periods and Data Collection Dates						
Rain Gauge No.	Rain Gauge Name	Winter Apr. 15 '70	Spring July 1 '70	Summer Sept. 1 '70	Fall Oct. 15 '70	Total 1970	Long Term Average	No. of years
	Sweetwater County							
154	Salt Wells Guzzler #14	2.84	5.28	.87	1.60	10.59	9.99	2
155	Salt Wells Guzzler #15	2.56	4.12	1.27	1.40	9.35	9.28	2
156	Salt Wells Guzzler #16	2.97	4.40	.44	1.80	9.61	9.40	2
120	Steamboat Guzzler #8	4.17	4.49	1.19	1.29	11.14	11.12	3
121	Steamboat Guzzler #9	4.15	4.45	1.28	1.40	11.28	11.33	3
101	Ten Mile Ridge	1.23c	3.00c	.74	.66	5.63	5.75	5
	Uinta County							
31	Cumberland #1 Exc.	1.91	3.10	.32	1.92	7.25	8.49	6
34	Cumberland #4 Exc.	2.20	2.90	.30	1.91	7.31	8.22	6
	Washakie County							
1	Ant Hill Worland Exc.	1.08	1.95	.15	.50b	3.68	6.46	11
150	Big Trails G.R.I. Exc.	4.00c	5.47c	.71	.50	10.68	13.22	3
41	Bud Kimball Exc.	3.11	3.55	.71	.98	8.35	9.24	9
7	Buffalo Creek Exc.	3.60	4.78	.39	1.00	9.77	10.36	9
17	Burnt Wagon Exc.	1.30b	2.10	.21	.76	4.37	6.08	9
8	Demer Exc.	2.12	3.31	.87	.48	6.78	7.81	11
4	Dutch Nick Flat Exc.	1.75	2.78	.30	.87	5.70	6.87	10
114	East Worland Study Area	1.30b	1.90b	.07	.45	3.72	6.12	4
15	25 Mile Study Area	1.35b	1.85	.43	.70	4.33	6.26	10
36	Smilo Exc.	2.54	3.15	.98	.76	7.43	8.27	10
39	Two Mile Hill Exc.	3.37	3.21	.42	.95	7.95	10.18	10
13	West Pasture Exc.	1.30b	2.50	.95	.00	4.75	6.48	9
115	Worland Cattle Co. Exc.	2.43	3.46	1.25	.45	7.59	7.19	3
		2.25	3.08	.57	.65	6.55	8.04	

a - Not read on July 1, 1970. Spring and summer values estimated from total in gauge at end of summer period.

b - Gauge disturbed. Precipitation estimated from nearest gauges.

c - Not read on April 15, 1970. Winter and spring values estimated from total in gauge at end of spring period (July, 1970).

d - Gauge disturbed. Accurate estimates not possible.

Table 2. Precipitation data from selected U.S. Weather Bureau Stations for the period October 15, 1969 to October 15, 1970[1].

	Winter Oct. 16 to Apr. 15	Spring Apr. 16 to July 1	Summer July 1 to Sept. 1	Fall Sept. 1 to Oct. 15	1970 Totals[2]	Long Term Average[3]	Years of Record
Big Horn Basin							
Anchor Dam	4.58	6.76	.60	1.58	13.52	10.87E	8
Basin	1.54	1.77	.55	.78	4.64	6.21	62
Black Mountain	4.72	3.89	.04	1.33	9.98	10.09	7
Cody 12 SE	2.52	4.42	.95	2.32	10.21	9.08	7
Deaver	1.20	2.05	.33	1.15	4.73	5.21	51
Emblem	2.80	2.69	.11	1.50	7.10	8.83E	23
Grass Creek	1.66	3.08	.31	2.13	7.18	6.04E	17
Greybull IS	----	----	----	----	-----	6.39E	18
Heart Mountain	1.93	5.77	1.20	2.21	11.11	7.36E	21
Lovell	1.39	2.35	.18	1.73	5.65	6.92	57
Powell	1.07	3.24	1.09	1.30	6.70	5.67	60
Rairden 2 WSW	1.58	1.93	.06	.32	3.89	6.36	18
Shell	4.48	2.89	.45	1.54	9.36	9.12	11
Tensleep 4 NE	4.21	4.78	.77	.85	10.61	13.67	6
Tensleep 16 SSE	4.86	4.97	1.03	1.29	12.15	12.88	10
Thermopolis 2	3.64	3.95	.42	.76	8.77	11.01	5
Thermopolis 25 WNW	3.40	4.44	.86	1.69	10.39	9.62	12
Worland	1.29	2.02	.14	.65	4.10	7.76	56
Worland FAA-AP	1.26	1.88	.36	.58	4.08	5.47	9
Wind River Basin							
Boysen Dam	2.97	3.49	.48	.43	7.37	9.99	23
Diversion Dam	1.90	2.97	1.12	1.34	7.33	9.45E	49
Fort Washakie 2 S	3.47	4.44	1.52	1.79	11.22	11.90	61
Gas Hills 4 E	3.53	5.30	1.74	.37	10.94	7.28	7
Lander WB AP	5.19	3.81	.40	1.94	11.34	13.58	78
Lost Cabin	3.44	1.41	.05	.25	5.15	6.61	8
Pavillon	----	----	----	.69	-----	8.67	45
Riverton	2.45	2.90	.95	.88	7.18	8.79	50
Sand Draw	3.45	6.45	.17	.43	10.50	10.24E	22
Shoshoni	1.61	2.87	.28	.45	5.21	7.18	29
Southern Wyoming							
Farson	1.28	3.21	1.26	1.18	6.93	7.97E	46
Kemmerer	1.23	3.75E	.33	2.69	8.00	7.76E	36
Rock Springs	2.47	4.87	.96	1.66	9.96	8.61	29
Rock Springs FAA AP	3.11	4.73	.95	1.49	10.28	10.98	37
Wamsutter IN	2.44	1.75	.53	----	-----	6.60E	29
Muddy Gap	2.77	4.94	1.07	1.29	10.07	8.24	20
Rawlins FAA AP	3.86	3.69	1.48	2.06	11.09	10.62	30

[1] Weather Bureau, 1970. Climatological Data-Wyoming Annual Summery of Commerce Vols. 78 & 79.

[2] Computed for the period October 15, 1969 to October 15, 1970.

[3] Weather Bureau, 1970. Climatological Data-Wyoming Annual Summary. U.S. Dept. of Commerce. Vol. 79 No. 13 and John Alyea, U.S. Weather Bureau, Cheyenne.

SECTION IV

EXCLOSURE STUDIES (PRODUCTION, COVER, AND PRECIPITATION PHASE)

1970

Vegetation production studies on exclosures and relic areas of the Big Horn and Wind River Basins were initiated during the 1962 field season. Most of the exclosures were constructed in 1959 and 1960. The objectives of the program were to determine:

1. the relationship of annual herbage production to area cover percentage;
2. the relationship of annual herbage production changes to variations in time and amount of available moisture;
3. the relationship of plant height of major forage species to annual herbage production and to time and amount of available moisture;
4. the influence of several range improvement practices on herbage production, area cover, and plant height;
5. the relationship of percentage frequency to area cover and herbage production.

Methods and Procedures

Area cover and herbage production studies on sagebrush-grass sites were conducted on transects of 20 quadrats, 1' x 1', spaced systematically along a randomly located 100' steel tape.

On sites dominated by saltbush, a variation of the sampling technique, described in the 1968 results, was used to measure herbage production. Twenty 1' x 10' plots were located systematically along a randomly located 100' steel tape. Each 1' x 10' plot was subsampled for vegetative cover using 10 1' x 1' plots.

Area cover of all herbaceous semi-woody and woody species was estimated within each square foot plot. Data of shrub crown cover and basal cover of plains pricklypear, Hood's phlox, and Hooker sandwort were not combined when comparing area cover to herbaceous production since this group of plants were not clipped.

Forage production was determined by clipping herbaceous species at ground or crown level. Exclosures were clipped on or near the same date as the previous years. Clippings were oven-dried at 70°C for 12 hours prior to weighing.

Precipitation data were recorded from simple aluminum rain gauges installed at each exclosure. Precipitation data were recorded four times a year - April 15, July 1, September 1, and October 15.

Metal stakes were driven into the ground for permanent photo location points in the area where production studies are being conducted in each exclosure.

Names of plants which occurred in the production study areas are shown in Table I. Included are the four letter code names by which the plants are identified in the tabular material; genus, species, and common names, and life form and characteristic longevity of the plants.

1970 Results

A list, by counties, of production study areas is presented in Table II of the report. General location of exclosures were shown on maps in the 1964 report. The tabular data of production, cover, frequency, and precipitation are arranged alphabetically by exclosure or study area name following Table II.

Production clipping in 1970 was conducted both inside and outside the exclosures to determine the influence of grazing upon the vegetation during the eight previous years. In some instances large variations in production were noted outside the exclosures as compared to inside. Some areas, however, showed very little difference. At the exclosures where sagebrush spraying had been conducted, the response of understory vegetation to the treatment was easily visable, both inside and outside. Production values were lower in the grazed areas but were greater on the sprayed sites than on the non-sprayed.

Utilization estimates were made of all grass species, at the time of clipping, outside those exclosures where use by livestock was evident. These data were used to adjust herbage production values in order to achieve a more accurate measure of total annual production. Utilization estimates and adjusted production data appear in the tabular listings following Table II.

A new approach was used this year to summarize the field data. Cover data collected in the field and weights obtained in the office were coded on computer data cards. A specific computer program was written which carries out complete computations and prints out a final summary table. Within the program the following calculations are carried out:

(a) total basal area percent by species

(b) average basal area percent by species

(c) composition of clipped species

(d) absolute plot frequency for all species

(e) total weight for 20 square feet

(f) average weight per plot occurrence

(g) weight per unit basal area

(h) pounds per acre

All values are stored in memory of the computer and printed out in one summary table per exclosure site at the completion of all calculation for each exclosure site.

At the bottom of the summary table the precipitation data format is printed out on which precipitation data is typed after hand calculations have been made.

The computer program has been checked for accuracy by the use of data that has been hand calculated. All 1970 data cards have been verified against the original data sheets prior to computer calculation. Summary data tables were spot checked for accuracy. Use of the computer increased speed of analysis and greatly increased accuracy of the calculations eliminating human arithmetic mistakes. Since the computer print-outs were photographically reproduced the errors of typing have also been by-passed.

As a result of the major portion of the spring precipitation occurring during late June, cool-season perennial grasses exhibited restricted growth and early maturation due to dry conditions from April to June. Presence of annual grasses and forbs was less than on the two previous years. All annuals demonstrated low vigor and early maturation. Perennial warm-season grasses were benefited by the late spring moisture, but this effect was dampened by warm summer temperatures in combination with low precipitation.

TABLE I. LIST OF PLANT NAMES WHICH OCCURRED IN PRODUCTION STUDY AREAS

Code	Genus--Species	Common Name	Life Form	Longevity
AGCR	Agropyron cristatum	Crested wheatgrass	Grass	Perennial
AGGL	Agoseris glauca	Pale agoseris	Forb	Perennial
AGSM	Agropyron smithii	Western wheatgrass	Grass	Perennial
AGSP	Agropyron spicatum	Bluebunch wheatgrass	Grass	Perennial
ALTE	Allium textile	Textile onion	Forb	Perennial
ARA	Arabis spp.	Rockcress	Forb	Perennial
ARAR	Artemisia arbuscula	Low sagebrush	Shrub	Perennial
ARFR	Artemisia frigida	Fringed sagewort	Half-shrub	Perennial
ARHO	Arenaria hookeri	Hooker sandwort	Forb	Perennial
ARNO	Artemisia nova	Black sagebrush	Shrub	Perennial
ARPE	Artemisia pedatifida	Brown sagebrush	Half-shrub	Perennial
ARSP	Artemisia spinescens	Bud sagebrush	Half-shrub	Perennial
ARTR	Artemisia tridentata	Big sagebrush	Shrub	Perennial
ASDR	Astragalus drummondii	Drummond milkvetch	Forb	Perennial
ASMI	Astragalus missouriensis	Missouri milkvetch	Forb	Perennial
ASPU	Astragalus purshii	Pursh loco	Forb	Perennial
AST	Astragalus spp.	Milkvetch	Forb	Perennial
ATNU	Atriplex nuttallii	Nuttall saltbush	Half-shrub	Perennial
BOGR	Bouteloua gracilis	Blue grama	Grass	Perennial
BRTE	Bromus tectorum	Cheatgrass	Grass	Annual
CAEL	Carex eleocharis	Needleleaf sedge	Sedge	Perennial
CAFI	Carex filifolia	Threadleaf sedge	Sedge	Perennial
CALI	Castilleja linariaefolia	Wyoming Indian paintbrush	Forb	Perennial
CHAL	Chenopodium album	Lambsquarter	Forb	Annual
CHNA	Chrysothamnus nauseosus	Rubber rabbitbrush	Shrub	Perennial
CHVI	Chrysothamnus viscidiflorus	Green rabbitbrush	Shrub	Perennial
COPA	Commandra pallida	False toadflax	Forb	Perennial
CORA	Cordylanthus ramosus	Branched birdbeak	Forb	Annual
CRAC	Crepis acuminata	Tapertip hawksbeard	Forb	Perennial
CRBR	Cryptantha bradburiana	Miners candle	Forb	Perennial
CRIN	Crepis intermedia	Gray hawksbeard	Forb	Perennial
DEPI	Descurainia pinnata	Pinnate tansymustard	Forb	Annual
ELCI	Elymus cinerious	Basin wildrye	Grass	Perennial
ERCO	Erigeron compositus	Fernleaf fleabane	Forb	Perennial
ERFL	Eriogonum flavum	Yellow wildbuckwheat	half-shrub	perennial
ERI	Erigeron spp.	Fleabane	Forb	Perennial
ERMI	Eriogonum microthecum	Slenderbrush	Forb	Perennial
ERPU	Erigeron pumilus	Fleabane	Forb	Perennial
EROV	Eriogonum ovalifolium	Cushion eriogonum	Forb	Perennial
EULA	Eurotia lanata	Winterfat	Half-shrub	Perennial
EURO	Eupatorium rotundifolium	Roundleaf joepieweed	Forb	Perennial
FEID	Festuca idahoensis	Idaho fescue	Grass	Perennial
FEOC	Festuca octoflora	Sixweek fescue	Grass	Annual
GIL	Gilia spp.	Gilia	Forb	Annual
GUSA	Gutierrezia sarothrae	Broom snakeweed	Half-shrub	Perennial
GYPA	Gymnostris parvula	leafless false phlox	Forb	Annual
HAGL	Halogeton glomeratus	Halogeton	Forb	Annual
HEAN	Helianthus annuus	Annual sunflower	Forb	Annual
JUOS	Juniperus osteosperma	Utah juniper	Tree	Perennial
KOCR	Koeleria cristata	June grass	Grass	Perennial
LASC	Lactuca scariola	Prickly lettuce	Forb	Annual

TABLE I. Continued

Code	Genus--Species	Common Name	Life Form	Longevity
LEDE	Lepidium densiflorum	Prairie pepperweed	Forb	Annual
LEPE	Lepidium perfoliatum	Clasping pepperweed	Forb	Annual
LARE	Lappula redowskii	Stickseed	Forb	Annual
LILE	Linum lewisii	Blue flax	Forb	Perennial
LERE	Lewisia rediviva	Bitterroot	Forb	Perennial
LIRU	Lithosperum ruderale	Wayside gromwell	Forb	Annual
MACA	Machaeranthera canescens	Hoary aster	Forb	Perennial
MATA	Machaeranthera tanacetifolia	Aster	Forb	Annual
MIGR	Microsteris gracilis	Pink microsteris	Forb	Annual
MONU	Monolepis nuttalliana	Nuttall monolepis	Forb	Annual
MUDI	Musineon divaricatum	Falsecarrot	Forb	Perennial
MUSQ	Munroa squarrosa	False buffalograss	Grass	Annual
OPPO	Opuntia polyacantha	Plains pricklypear	Forb	Perennial
ORHY	Oryzopsis hymenoides	Indian ricegrass	Grass	Perennial
PEN	Penstemon spp.	Penstemon	Forb	Perennial
PHHO	Phlox hoodii	Hood's phlox	Forb	Perennial
PHLI	Phacelia linearis	Threadleaf phacelia	Forb	Annual
PHLO	Phlox longifolia	Long-leaf Phlox	Forb	Perennial
PHMU	Phlox multiflora	Flowery phlox	Forb	Perennial
PLPA	Plantago patagonica	Wooly indianwheat	Forb	Annual
PLSP	Plantago spinescens	Spiny indianwheat	Forb	Annual
POAV	Polygonum aviculare	Prostrate knotweed	Forb	Annual
POFE	Poa fendleriana	Muttongrass	Grass	Perennial
POSE	Poa secunda	Sandberg bluegrass	Grass	Perennial
PSTE	Psoralea tenuiflora	Slimflower scurfpea	Forb	Perennial
SAKA	Salsola kali	Russian thistle	Forb	Annual
SAVE	Sarcobatus vermiculatus	Greasewood	Shrub	Perennial
SIHY	Sitanion hystrix	Squirreltail bottlebrush	Grass	Perennial
SPAI	Sporobolus airoides	Alkali sacaton	Grass	Perennial
SPCO	Sphaeralcea coccinea	Scarlet globemallow	Forb	Perennial
SPCR	Sporobolus cryptandrus	Sand dropseed	Grass	Perennial
STCO	Stipa comata	Needleandthread	Grass	Perennial
TECA	Tetradymia canescens	Gray horsebrush	Shrub	Perennial
TESP	Tetradymia spinosa	Spiny horsebrush	Shrub	Perennial
TRI	Trifolium spp.	Clover	Forb	
UMB	Umbelliferae fam.	Carrot fam.		
VIAM	Vicia americana	American vetch	Forb	Perennial
ZYVE	Zygadenus venenosus	Death camas	Forb	Perennial

TABLE II. An alphabetical listing of study areas, the county where each occurs, and the treatments studied in each area.

County Name Code	Exclosure Name	County	Treatment	Page
2017	Big Trails G.R.I. Exc.	Washakie	Inside Spray	24
			Outside Native	25
1002	Boysen Reservoir Exc.	Fremont	Inside Native	26
			Outside Native	27
2007	Bud Kimball Exc.	Washakie	Inside Native	28
			Outside Native	29
2002	Buffalo Creek Exc.	Washakie	Inside Native	30
			Outside Native	31
			Inside No. 2	32
			Outside No. 2	33
2003	Burnt Wagon Exc.	Washakie	Inside Native	34
			Outside Native	35
1501	Cochran Exc.	Hot Springs	Inside Native	36
			Outside Native	37
			Inside Pitted	38
			Inside Cultivated	39
1901	Cumberland Exc. #1	Uinta	Inside Native	40
			Outside Native	41
			Inside Spray	42
			Outside Spray	43
1201	Cumberland Exc. #2	Lincoln	Inside Native	44
			Outside Native	45
			Inside Spray	46
			Outside Spray	47
1202	Cumberland Exc. #3	Lincoln	Inside Native	48
			Outside Native	49
			Inside Spray	50
			Outside Spray	51
1902	Cumberland Exc. #4	Uinta	Inside Native	52
			Outside Native	53
2004	Demer Exc.	Washakie	Inside Native	54
			Outside Native	55
2005	Dutch Nick Exc.	Washakie	Inside Native	56
			Outside Native	57
0404	Farson Exc.	Sweetwater	Inside Native	58
			Outside Native	59
1007	Granite Mountain Exc.	Fremont	Inside Native	60
			Outside Native	61
			Inside Spray	62
			Outside Spray	63
0901	Halogeton Pasture Exc. #1	Big Horn	Inside Native	64
0902	Halogeton Pasture Exc. #2	Big Horn	Inside Native	65
0903	Halogeton Pasture Exc. #3	Big Horn	Inside Native	66
0904	Halogeton Pasture #1	Big Horn	Outside Native	67
0905	Halogeton Pasture #2	Big Horn	Outside Native	68
0907	Halogeton Pasture #4A	Big Horn	Outside Native	69
0908	Halogeton Pasture #4B	Big Horn	Outside Native	70
0909	Halogeton Pasture #5	Big Horn	Outside Native	71

Table II, Continued

County Name Code	Exclosure Name	County	Treatment	Page
0910	Halogeton Pasture #6	Big Horn	Outside Native	72
0911	Halogeton Pasture #7A	Big Horn	Outside Native	73
0912	Halogeton Pasture #7B	Big Horn	Outside Native	74
0913	Horse Creek Exc.	Big Horn	Inside Agsm.	75
			Outside Agsm.	76
			Inside Agsp.	77
			Outside Agsp.	78
0921	Kane G.R.I. Exc.	Big Horn	Inside Native	79
			Outside Native	80
			Inside Spray	81
			Outside Spray	82
1502	Kirby Creek Exc.	Hot Springs	Inside Native	83
			Outside Native	84
1001	Lander Ant Exc.	Fremont	Inside Native	85
			Outside Native	86
1003	Lower Gov't. Draw Exc.	Fremont	Inside Native	87
			Outside Native	88
			Inside Spray	89
			Outside Spray	90
1004	McGraw Flat Exc.	Fremont	Inside Native	91
			Outside Native	92
0920	Medicine Lodge G.R.I. Exc.	Big Horn	Inside Spray	93
			Outside Native	94
1503	North Butte Relic Area	Hot Springs	Native	95
1504	Round Top Relic Area	Hot Springs	Native	96
1505	Sand Gulch Exc.	Hot Springs	Inside Native	97
			Outside Native	98
1009	Shoshone Ant Exc. #2, North	Fremont	Inside Native	99
	South		Inside Native	100
			Outside Native	101
1011	Shoshone Ant Exc. #4, North	Fremont	Inside Native	102
	South		Inside Native	103
			Outside Native	104
1013	Shoshone Ant Exc. #7, North	Fremont	Inside Native	105
	South		Inside Native	106
			Outside Native	107
1014	Shoshone Ant Exc. #8, North	Fremont	Inside Native	108
	South		Inside Native	109
			Outside Native	110
1015	Shoshone Ant. Exc. #9, North	Fremont	Inside Native	111
	South		Inside Native	112
			Outside Native	113
1017	Shoshone Ant Exc. #11, North	Fremont	Inside Native	114
	South		Inside Native	115
			Outside Native	116
2009	Smilo Exc.	Washakie	Inside Native	117
			Outside Native	118
			Inside Spray	119
			Outside Spray	120
1005	Sweetwater Exc.	Fremont	Inside Arno.	121
			Outside Arno.	122
			Inside Artr.	123
			Outside Artr.	124

Table II, Continued

County Name Code	Exclosure Name	County	Treatment	Page
2010	Two Mile Hill Exc.	Washakie	Inside Native	125
			Outside Native	126
1006	Upper Gov't. Draw Exc.	Fremont	Inside Native	127
			Outside Native	128
			Inside Spray	129
			Outside Spray	130
2006	West Pasture Exc.	Washakie	Inside Native	131
			Outside Native	132

```
        2017   BIG    TRAILS G.R.I. AUGUST 19/70  INSIDE SPRAY

                         NUMBER PLOTS = 20
                          PLOT SIZE 1X1

PLANT  PLANT  TOTAL  AVE.    PERCENT  ABS.   TOTAL  AVE.    WGT./  LBS
CODE   NAME   TRANS  PER-    COMPO-   PLOT   WGT.   WGT.    UNIT   PER
              BASAL  CENT    SITION   FREQ.  GMS/20 /PLOT   BASAL  AC.
              AREA   BASAL            BASE   SQ.FT. OCCUR-  AREA
              PER-   AREA             20            RENCES
              CENT


  ANN GRASS  219.20 11.0               19     39.91   2.10  0.18  191.64
 5     BRTE  219.10 11.0     96.2      19
 5     FEOC    0.10 T        4.39E-02   1
  ANN FORBS    8.50 .425               16     13.22   0.83  1.56  63.478
 4     MONU    2.00 .100     .878       8
 4     DEPI    0.10 T        4.39E-02   1
 4     GYPA    5.70 .285     2.50      11
 4     POAV    0.20 1.00E-02 8.78E-02   2
 4     PHLI    0.50 2.50E-02 .220       1

    TOTAL           11.39   100.00            53.130                  255.11

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO.150    BIG    TRAILS G.R.I. AUGUST 19/70
OCT. 15 TO APR. 15  = 4.00
APR. 15 TO JULY 1   = 5.47*
JULY 1 TO SEPT. 1   =   .71
SEPT. 1 TO OCT. 15  =   .50
SEASON TOTAL        = 10.68
LONG TERM AVERAGE   = 13.22
```

*Estimated

```
          2017   BIG    TRAILS G.R.I. AUGUST 19/70  OUTSID NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT   ABS.     TOTAL   AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-    COMPO-    PLOT     WGT.    WGT.    UNIT    PER
               BASAL  CENT    SITION    FREQ.    GMS/20  /PLOT   BASAL   AC.
               AREA   BASAL             BASE     SQ.FT.  OCCUR-  AREA
               PER-   AREA              20               RENCES
               CENT


       *ARTR   15.00 .750                 3
       *OPPU   30.00 1.50                 1
        POSE    0.50 2.50E-02 .775        1       0.03    0.03   0.06   .14405
    ANN GRASS  49.70 2.48                20      19.31    0.97   0.39  92.721
        FEOC    0.10 T          .155      1
        BRTE   49.60 2.48       76.9     20
    ANN FORBS  13.80 .690                18       9.04    0.50   0.66  43.407
        DEPI    2.50 .125       3.88      2
        POAV    0.10 T          .155      1
        GYPA    7.90 .395       12.2     12
        MIGR    0.90 4.50E-02 1.40        5
        PHLI    0.70 3.50E-02 1.09        7
        LARE    1.60 8.00E-02 2.48        3
        MOJU    0.10 T          .155      1
    PER FORBS   0.50 2.50E-02             1       6.29    6.29  12.58  30.203
        PSTE    0.50 2.50E-02 .775        1

     TOTAL           3.48     100.00             34.670                 166.47

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

    RAIN GUAGE NO. 150    BIG    TRAILS G.R.I. AUGUST 19/70
OCT. 15 TO APR. 15  =  4.00
APR. 15 TO JULY 1   =  5.47*
JULY 1 TO SEPT. 1   =   .71
SEPT. 1 TO OCT. 15  =   .50
SEASON TOTAL        = 10.68
LONG TERM AVERAGE   = 13.22
     *Estimated
```

```
          1002   BUYSEN RESERV EXCL.  JULY   30/70  INSIDE NATIVE

                         NUMBER PLOTS = 20
                          PLOT SIZE 1X1

PLANT   PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
                BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA   BASAL            BASE    SQ.FT.  OCCUR-  AREA
                PER-   AREA             20              RENCES
                CENT


  3     BOGR    198.50 9.92       96.1      17     19.75    1.16  0.10  94.833
   ANN  FORBS     0.50 2.50E-02              1      0.44    0.44  0.88  2.1127
  4     HAGL      0.50 2.50E-02 .242         1
   PER  FORBS     7.50 .375                 10      4.44    0.44  0.59  21.320
  2     SPCO      7.40 .370       3.58       9
  2     ASPU      0.10 T        4.84E-02     1

    TOTAL             10.33    100.00            24.630                 118.27

        * NOT COMPUTED IN PERCENT COMPOSITION
        T = TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 10      BOYSEN RESERV EXCL.  JULY   30/70
OCT. 15 TO APR. 15  =  .86
APR. 15 TO JULY 1   = 1.90
JULY 1 TO SEPT. 1   =  .27
SEPT. 1 TO OCT. 15  =  .50
SEASON TOTAL        = 3.53
LONG TERM AVERAGE   = 4.71
```

```
        1002   BOYSEN RESERV EXCL.  JULY   30/70  OUT    NATIVE

                          NUMBER PLOTS = 20
                            PLOT SIZE 1X1

PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.   WGT.   UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
              AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
              PER-   AREA            20            RENCES
              CENT

 3     BOGR   282.00 14.1     99.6       19    20.37    1.07  0.07  97.810
  ANN FORBS     0.20 1.00E-02             2     0.02    0.01  0.10  9.6034E-02
 4     MATA     0.10 T         3.53E-02   1
 4     LARE     0.10 T         3.53E-02   1
  PER FORBS     0.90 4.50E-02             5     0.42    0.08  0.47  2.0167
 2     SPCU     0.90 4.50E-02 .318        5
 6    *OPPO     3.00 .150                 1

    TOTAL            14.31    100.00           20.810                 99.923

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 10    BOYSEN RESERV EXCL.  JULY   30/70
OCT. 15 TO APR. 15 =  .86
APR. 15 TO JULY 1  = 1.90
JULY 1 TO SEPT. 1  =  .27
SEPT. 1 TO OCT. 15 =  .50
SEASON TOTAL       = 3.53
LONG TERM AVERAGE  = 4.71
```

```
          2007    BUD    KIMBAL EXCL   AUGUST 27/70  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT   PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL  AVE.    WGT./  LBS
CODE    NAME    TRANS  PER-    COMPO-   PLOT    WGT.   WGT.    UNIT   PER
                BASAL  CENT    SITION   FREQ.   GMS/20 /PLOT   BASAL  AC.
                AREA   BASAL            BASE    SQ.FT. OCCUR-  AREA
                PER-   AREA             20             RENCES
                CENT


  6   *ARTR    65.00 3.25                  7
  3    AGSM    47.80 2.39       77.7      17     26.10    1.54  0.55  125.32
  3    POSE     2.20 .110       3.58       5      0.31    0.06  0.14  1.4885
  3    SIHY     7.00 .350       11.4       1      2.40    2.40  0.34  11.524
   ANN FORBS    1.70 8.50E-02              9      0.86    0.10  0.51  4.1295
  4    PLPA     0.50 2.50E-02 .813         5
  4    LARE     0.30 1.50E-02 .488         3
  4    DEPI     0.50 2.50E-02 .813         5
  4    LEDE     0.20 1.00E-02 .325         2
  4    PLSP     0.10 T         .163        1
  4    UMB      0.10 T         .163        1
   PER FORBS    2.80 .140                  5      0.88    0.18  0.31  4.2255
  2    ERPU     2.80 .140       4.55       5
  6   *OPPO    27.30 1.36                  9

     TOTAL            7.69    100.00            30.550                146.69

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 41   BUD    KIMBAL EXCL   AUGUST 27/70
OCT. 15 TO APR. 15 =  3.11
APR. 15 TO JULY 1  =  3.55
JULY 1 TO SEPT. 1  =   .71
SEPT. 1 TO OCT. 15 =   .98
SEASON TOTAL       =  8.35
LONG TERM AVERAGE  =  9.24
```

2007 BUD KIMBAL EXCL AUGUST 27/70 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	133.00	6.65		6				
3	AGSM	18.10	.905	32.2	20	22.08	1.10	1.22	106.02
3	POSE	14.60	.730	26.0	17	2.66	0.16	0.18	12.773
3	SIHY	13.30	.665	23.7	9	2.64	0.29	0.20	12.676
ANN	FORBS	10.20	.510		20	2.70	0.14	0.26	12.965
4	PLPA	6.90	.345	12.3	16				
4	LARE	1.60	8.00E-02	2.85	12				
4	DEPI	1.00	5.00E-02	1.78	10				
4	LEDE	0.60	3.00E-02	1.07	6				
4	UMB	0.10	T	.178	1				
6	*PHHO	0.50	2.50E-02		1				
6	*OPPU	38.50	1.92		4				
	TOTAL		11.41	100.00		30.080			144.43

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 41 BUD KIMBAL EXCL AUGUST 27/70
OCT. 15 TO APR. 15 = 3.11
APR. 15 TO JULY 1 = 3.55
JULY 1 TO SEPT. 1 = .71
SEPT. 1 TO OCT. 15 = .98
SEASON TOTAL = 8.35
LONG TERM AVERAGE = 9.24

```
          2002    BUFFAL CREEK   EXCL    JULY   28/70  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.    WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20  /PLOT   BASAL  AC.
               AREA   BASAL           BASE   SQ.FT.  OCCUR-  AREA
               PER-   AREA            20             RENCES
               CENT


  6    *ARTK   104.80 5.24                10
  6    *PHHO     0.70 3.50E-02             3
  6    *OPPU    17.00 .850                 2
  3     AGSP    95.00 4.80      60.6      12     54.92    4.58   0.57   263.71
  3     AGSM     8.30 .415      5.24      12      8.61    0.72   1.04   41.343
  3     POSE    23.50 1.17      14.8      19      4.55    0.24   0.19   21.348
  3     BOGR    30.00 1.50      18.9       1      4.89    4.89   0.16   23.480
   ANN GRASS     0.10 5.00E-03             1      0.10    0.10   1.00   .48017
  5     BRTE     0.10 T         6.31E-02   1
   ANN FORBS     0.30 1.50E-02             3      0.08    0.03   0.27   .38414
  4     DEPI     0.10 T         6.31E-02   1
  4     PLPA     0.20 1.00E-02  .126       2
   PER FURBS     0.30 1.50E-02             3      0.34    0.11   1.13   1.6326
  2      AST     0.10 T         6.31E-02   1
  2     SPCU     0.10 T         6.31E-02   1
  2      UMB     0.10 T         6.31E-02   1

    TOTAL             14.05    100.00          73.490                   352.88

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 7    BUFFAL CREEK  EXCL    JULY   28/70
OCT. 15 TO APR. 15 = 3.60
APR. 15 TO JULY 1  = 4.78
JULY 1 TO SEPT. 1  =  .39
SEPT. 1 TO OCT. 15 = 1.00
SEASON TOTAL       = 9.77
LONG TERM AVERAGE  =10.36
```

2002 BUFFAL CREEK EXCL JULY 28/70 OUTSID NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	32.40	1.62		9				
6	*PHHU	1.50	7.50E-02		2				
6	*OPPO	4.00	.200		1				
3	AGSP	38.10	1.90	16.6	7	15.55	2.22	0.41	74.666
3	AGSM	9.60	.480	4.18	17	16.48	0.97	1.72	79.132
3	POSE	41.20	2.06	18.0	19	6.24	0.33	0.15	29.963
3	BOGR	139.00	6.95	60.6	6	10.08	1.68	0.07	48.401
	ANN GRASS	0.40	2.00E-02		4	0.05	0.01	0.13	.24008
5	BRTE	0.40	2.00E-02	.174	4				
	PER FORBS	0.10	5.00E-03		1	0.08	0.08	0.80	.38414
2	AST	0.10	T	4.36E-02	1				
	ANN FORBS	1.00	5.00E-02		8	0.20	0.03	0.20	.96034
4	DEPI	0.30	1.50E-02	.131	3				
4	PLPA	0.50	2.50E-02	.218	5				
4	LARE	0.20	1.00E-02	8.71E-02	2				
1	EULA	0.10	T	4.36E-02	1	0.12	0.12	1.20	.57620
	TOTAL		13.37	100.00		48.800			234.32

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 7 BUFFAL CREEK EXCL JULY 28/70
OCT. 15 TO APR. 15 = 3.60
APR. 15 TO JULY 1 = 4.78
JULY 1 TO SEPT. 1 = .39
SEPT. 1 TO OCT. 15 = 1.00
SEASON TOTAL = 9.77
LONG TERM AVERAGE = 10.36

```
        2002   BUFFAL CREEK  EXCL   JULY   28/70  INSIDE No. 2

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT   ABS.    TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-    PLOT    WGT.   WGT.    UNIT   PER
               BASAL  CENT    SITION    FREQ.   GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL             BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA              20             RENCES
               CENT


  6   *ARTR   238.30 11.9                13
  6   *PHHO    16.80 .840                13
  6   *OPPO     0.10 T                    1
  3    AGSM     3.60 .180     2.82       11      5.58    0.51  1.55  26.793
  3    AGSP   105.80 5.29     83.0       19     36.59    2.03  0.35  175.69
  3    POSE    17.20 .860     13.5       17      2.19    0.13  0.13  10.516
   PER FORBS    0.40 2.00E-02             4      0.22    0.06  0.55  1.0564
  2    MACA     0.10 T        7.84E-02    1
  2    SPCO     0.30 1.50E-02 .235        3
   ANN FORBS    0.50 2.50E-02             4      0.19    0.05  0.38  .91232
  4    LARE     0.30 1.50E-02 .235        3
  4    CEPI     0.20 1.00E-02 .157        2

    TOTAL      .     19.14   100.00            44.770                214.97

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 1     BUFFAL CREEK  EXCL   JULY   28/70
OCT. 15 TO APR. 15 =  3.60
APR. 15 TO JULY 1  =  4.78
JULY 1 TO SEPT. 1  =   .39
SEPT. 1 TO OCT. 15 =  1.00
SEASON TOTAL       =  9.77
LONG TERM AVERAGE  = 10.36
```

2002 BUFFAL CREEK EXCL JULY 28/70 OUTSID No. 2

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	93.00	4.65		6				
6	*PHHO	17.00	.850		14				
6	*CHNA	1.50	7.50E-02		2				
6	*OPPO	7.00	.350		2				
3	AGSM	2.50	.125	1.59	3	2.22	0.74	0.59	10.660
3	AGSP	41.00	2.05	26.0	16	32.00	2.00	0.78	153.65
3	POSE	11.70	.585	7.42	17	1.46	0.09	0.12	7.0105
3	BOGR	100.00	5.00	63.4	4	7.18	1.80	0.07	34.476
3	KOCR	1.00	5.00E-02	.634	1	0.73	0.73	0.73	3.5052
ANN	FORBS	0.20	1.00E-02		2	0.09	0.05	0.45	.43215
4	PLPA	0.10	T	6.34E-02	1				
4	DEPI	0.10	T	6.34E-02	1				
PER	FORBS	1.30	6.50E-02		7	1.01	0.14	0.78	4.8497
2	SPCO	0.10	T	6.34E-02	1				
2	UMB	0.20	1.00E-02	.127	2				
2	AST	0.40	2.00E-02	.254	4				
2	PEN	0.60	3.00E-02	.380	2				
	TOTAL		13.81	100.00		44.690			214.59

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 7 BUFFAL CREEK EXCL JULY 28/70
OCT. 15 TO APR. 15 = 3.60
APR. 15 TO JULY 1 = 4.78
JULY 1 TO SEPT. 1 = .39
SEPT. 1 TO OCT. 15 = 1.00
SEASON TOTAL = 9.77
LONG TERM AVERAGE = 10.36

2003 BURNT WAGON EXCL JULY 07/70 INSIDE NATIVE

NUMBER OF PLOTS
COVER = 200, PRODUCTION = 20
PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 200	TOTAL WGT. GMS/ 200 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	ATNU	1935.0	9.67	96.9	79	433.13	5.48	0.22	207.98
3	SIHY	10.3	5.15E-02	.516	6	6.68	1.11	0.65	3.2075
	PER FORBS	50.2	.251		139	31.32	0.23	0.62	15.039
2	UMB	42.1	.210	2.11	110				
2	ALTE	8.1	4.05E-02	.405	81				
	ANN FORBS	2.4	1.20E-02		16	1.32	0.08	0.55	.63382
4	DEPI	1.6	T	8.01E-02	12				
4	MATA	0.7	T	3.50E-02	3				
4	POAV	0.1	T	T	1				
	TOTAL		10.0	100.00		472.450			226.856

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 17 BURNT WAGON EXCL JULY 07/70
OCT. 15 TO APR. 15 = 1.30*
APR. 15 TO JULY 1 = 2.10
JULY 1 TO SEPT. 1 = .21
SEPT. 1 TO OCT. 15 = .76
SEASON TOTAL = 4.37
LONG TERM AVERAGE = 6.08

Estimated *

2003 BURNT WAGON EXCL JULY 07/70 OUTSID NATIVE

NUMBER OF PLOTS
COVER = 200, PRODUCTION = 20
PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 200	TOTAL WGT. GMS/200 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./UNIT BASAL AREA	LBS PER AC.
1	ATNU	1861.4	9.31	98.5	85	491.77	5.79	0.26	236.13
3	SIHY	2.5	1.25E-02	.132	3	1.54	0.51	0.62	.73946
	PER FORBS	23.6	.118		110	28.24	0.26	1.20	13.560
2	UMB	17.8	8.90E-02	1.05	94				
2	ALT	3.8	1.90E-02	.201	34				
	ANN FORBS	2.7	1.35E-02		27	0.41	0.02	0.15	.19687
4	MUNU	2.6	1.30E-02	.138	26				
4	MAIA	0.1	T	T	1				
	TOTAL		9.5	100.00		521.96			250.629

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 17 BURNT WAGON EXCL JULY 07/70
OCT. 15 TO APR. 15 = 1.30*
APR. 15 TO JULY 1 = 2.10
JULY 1 TO SEPT. 1 = .21
SEPT. 1 TO OCT. 15 = .76
SEASON TOTAL = 4.37
LONG TERM AVERAGE = 6.08
*Estimated

```
           1501    COCHRA EXCL          JULY   29/70  INSIDE NATIVE

                              NUMBER PLOTS = 20
                               PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.     PERCENT  ABS.    TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-     COMPO-   PLOT    WGT.    WGT.    UNIT   PER
               BASAL  CENT     SITION   FREQ.   GMS/20 /PLOT    BASAL  AC.
               AREA   BASAL             BASE    SQ.FT. OCCUR-   AREA
               PER-   AREA              20             RENCES
               CENT


  6   *ARTR   236.00 11.8                  9
  6   *OPPO    10.00 .500                  2
  6   *PHHO     2.50 .125                  2
  3    AGSM     9.60 .480      16.9       17     12.35    0.73   1.29   59.301
  3    POSE    45.00 2.25      79.4       19      6.31    0.33   0.14   30.299
   ANN GRASS    0.70 3.50E-02              7      0.34    0.05   0.49   1.6326
  5    BRTE     0.70 3.50E-02 1.23         7
   ANN FORBS    1.10 5.50E-02              7      0.45    0.06   0.41   2.1608
  4    PLPA     0.30 1.50E-02 .529         3
  4    LARE     0.20 1.00E-02 .353         2
  4    DEPI     0.30 1.50E-02 .529         3
  4    CHAL     0.30 1.50E-02 .529         3
   PER FORBS    0.30 1.50E-02              3      0.18    0.06   0.60   .86430
  2    LERE     0.10 T        .176         1
  2    ALTE     0.20 1.00E-02 .353         2

    TOTAL            15.26    100.00            19.630                 94.257

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

RAIN GUAGE NO. 76   COCHRA EXCL            JULY   29/70
OCT. 15 TO APR. 15  = 2.91
APR. 15 TO JULY 1   = 3.90
JULY 1 TO SEPT. 1   =  .60
SEPT. 1 TO OCT. 15  =  .80
SEASON TOTAL        = 8.21
LONG TERM AVERAGE   =10.10
```

```
        1501   COCHRA EXCL            JULY   29/70  OUTSID NATIVE

                               NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT  PLANT    TOTAL  AVE.    PERCENT  ABS.   TOTAL   AVE.    WGT./  LBS
CODE   NAME     TRANS  PER-    COMPO-   PLOT   WGT.    WGT.    UNIT   PER
                BASAL  CENT    SITION   FREQ.  GMS/20  /PLOT   BASAL  AC.
                AREA   BASAL            BASE   SQ.FT.  OCCUR-  AREA
                PER-   AREA             20             RENCES
                CENT


  6   *ARTR     35.00 1.75                2
  6   *OPPU     14.00 .700                2
  6   *PHHO      0.50 2.50E-02            1
  3    AGSM     12.30 .615        22.3   19     21.57    1.14   1.75  103.57
  3    POSE     40.50 2.02        73.4   20      5.41    0.27   0.13  25.977
   ANN GRASS     0.90 4.50E-02            5      0.74    0.15   0.82  3.5533
  5    BRTE      0.90 4.50E-02 1.63       5
   ANN FORBS     1.50 7.50E-02            9      1.70    0.19   1.13  8.1629
  4    PLPA      0.40 2.00E-02 .725       4
  4    DEPI      0.20 1.00E-02 .362       2
  4    LARE      0.30 1.50E-02 .543       3
  4    CHAL      0.60 3.00E-02 1.09       6

     TOTAL            5.24    100.00           29.420                 141.27

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 76    COCHRA EXCL          JULY    29/70
OCT. 15 TO APR. 15  =  2.91
APR. 15 TO JULY 1   =  3.90
JULY 1 TO SEPT. 1   =   .60
SEPT. 1 TO OCT. 15  =   .80
SEASON TOTAL        =  8.21
LONG TERM AVERAGE   = 10.10
```

```
              1501    COCHRA EXCL           JULY   29/70  INSIDE PITTED

                                 NUMBER PLOTS = 20
                                   PLOT SIZE 1X1

 POINT   PLANT    TOTAL   AVE.     PERCENT   ABS.    TOTAL  AVE.    WGT./   LBS
 CODE     NAME    TRANS   PER-     COMPO-    PLOT    WGT.   WGT.    UNIT    PER
                  BASAL   CENT     SITION    FREQ.   GMS/20 /PLOT   BASAL   AC.
                  AREA    BASAL              BASE    SQ.FT. OCCUR-  AREA
                  PER     AREA               20             RENCES
                  CENT


         *ARTR     52.00 2.60                  3
         *JUPO     20.00 1.00                  1
         *PHHO      4.10 .205                  3
          POFE     25.60 1.28        23.7     14     5.00    0.36   0.20   24.008
          AGCR     59.60 2.98        55.3     11    35.07    3.19   0.59   168.40
          AGSM      4.50 .225        4.17     12     9.03    0.75   2.01   43.359
          POSE     16.60 .830        15.4     13     2.34    0.18   0.14   11.236
     ANN  GRASS     0.50 2.50E-02              4     0.11    0.03   0.22   .52819
          BRTE      0.30 1.50E-02 .278         3
          FEOC      0.20 1.00E-02 .186         2
     ANN  FORBS     0.90 4.50E-02              5     1.13    0.23   1.26   5.4259
          PLPA      0.10 T          9.28E-02   1
          LAPE      0.10 T          9.28E-02   1
          DEPI       .30 1.50E-02 .278         3
          LELE      0.10 T          9.28E-02   1
           GIL      0.20 1.00E-02 .186         2
          PLSP       .10 T          9.28E-02   1
     PER  FORBS     0.10 5.00E-03              1     0.23    0.23   2.30   1.1044
          ALTE      0.10 T          9.28E-02   1

        TOTAL             5.20     100.00           52.910                254.06

          * NOT COMPUTED IN PERCENT COMPOSITION
          T = TRACE


   PRECIPITATION DATA

       RAIN GAUGE NO. 76       COCHRA EXCL          JULY   29/70
       MAR. 15 TO APR. 15  =  2.91
       APR. 15 TO JULY 1   =  3,90
       JULY 1 TO SEPT. 1   =   .60
       SEPT. 1 TO OCT. 1   =   .80
         TOTAL             =  8.21
         LONG TERM AVERAGE = 10.10
```

```
1501   COCHRA EXCL           JULY   29/70  INSIDE CULTIV

                    NUMBER PLOTS = 20
                     PLOT SIZE 1X1

PLANT  PLANT    TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.    WGT./  LBS
CODE   NAME     TRANS  PER-   COMPO-   PLOT   WGT.   WGT.    UNIT   PER
                BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT   BASAL  AC.
                AREA   BASAL           BASE   SQ.FT. OCCUR-  AREA
                PER-   AREA            20            RENCES
                CENT


        *ARTR   266.00 13.3              11
        *OPPO    34.00 1.70               3
        *PHHG     0.10 T                  1
         AGSM    20.80 1.04       31.6   20    26.61   1.33   1.28  127.77
         POSE    19.10 .955       29.0   14     3.73   0.27   0.20  17.910
         POFL    15.50 .775       23.5    7     5.22   0.75   0.34  25.065
   ANN GRASS      5.10 .255              13     3.38   0.26   0.66  16.230
         BRTE     4.30 .215       6.53   13
         FEOC     0.80 4.00E-02 1.21      4
   PER FORBS      2.80 .140               5     1.01   0.20   0.36  4.8497
          PEN     0.10 T          .152    1
         ALTE     0.70 3.50E-02 1.06      3
         ERPU     2.00 .100       3.03    1
   ANN FORBS      2.60 .130              13     0.85   0.07   0.33  4.0814
         PLPA     0.40 2.00E-02 .607      4
         LARL     0.50 2.50E-02 .759      5
         DEPI     1.00 5.00E-02 1.52     10
          GIL     0.10 T          .152    1
         PLSP      .60 3.00E-02 .910      2

      TOTAL           18.30    100.00         40.800                 195.91

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

  RAIN GUAGE NO.  76   COCHRA EXCL              JULY   29/70
OCT. 15 TO APR. 15  =   2.91
APR. 15 TO JULY 1   =   3.90
JULY 1 TO SEPT. 1   =    .60
SEPT. 1 TO OCT. 15  =    .80
SEASON TOTAL        =   8.21
LONG TERM AVERAGE   =  10.10
```

```
          1901   CUMBER EXCL.  NO 1   AUGUST 21/70  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.   WGT.   UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
              AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
              PER-   AREA            20            RENCES
              CENT


 6    *ARTR   105.00 5.25              6
 6    *CHVI   129.00 6.45              8
 6    *SAVE    67.00 3.35              4
 3     AGSM    23.10 1.15     31.8    19    14.61   0.77  0.63  70.153
 3     POSE    39.10 1.95     53.8    10     6.69   0.67  0.17  32.123
 3     POFE     0.50 2.50E-02 .688     1     0.14   0.14  0.28  .67224
 3     SIHY     1.00 5.00E-02 1.38     1     0.26   0.26  0.26  1.2484
 6    *PHMU     9.20 .460             12
 6    *PHHO     3.00 .150              1
 1     ATNU     9.00 .450     12.4     2     1.95   0.98  0.22  9.3633

    TOTAL            19.30   100.00         23.650               113.56

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO.31     CUMBER EXCL.   NO 1   AUGUST 21/70
OCT. 15 TO APR. 15  = 1.91
APR. 15 TO JULY 1   = 3.10
JULY 1 TO SEPT. 1   =  .32
SEPT. 1 TO OCT. 15  = 1.92
SEASON TOTAL        = 7.25
LONG TERM AVERAGE   = 8.49
```

```
        1901    CUMBER EXCL    NO 1    AUGUST 21/70   OUT     NATIVE

                           NUMBER PLOTS = 20
                             PLOT SIZE 1X1

PLANT   PLANT   TOTAL   AVE.     PERCENT   ABS.     TOTAL    AVE.     WGT./    LBS
CODE    NAME    TRANS   PER-     COMPO-    PLOT     WGT.     WGT.     UNIT     PER
                BASAL   CENT     SITION    FREQ.    GMS/20   /PLOT    BASAL    AC.
                AREA    BASAL              BASE     SQ.FT.   OCCUR-   AREA
                PER-    AREA               20                RENCES
                CENT


  6    *ARTR    125.00 6.25                  6
  6    *CHVI     54.00 2.70                  4
  6    *PHMU      3.30 .165                  9
  6    *SAVE    105.00 5.25                  2
  3     AGSM     20.10 1.00        30.2     17       9.66     0.57    0.48    46.384
  3     POSE     13.50 .675        20.3      7       1.10     0.16    0.08    5.2819
  3     ORHY      1.00 5.00E-02    1.50      1       0.32     0.32    0.32    1.5365
  3     SIHY      2.00 .100        3.00      1       0.78     0.78    0.39    3.7453
  1     ATNU     30.00 1.50        45.0      5       3.38     0.68    0.11    16.230

     TOTAL            17.70     100.00             15.240                     73.178

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 31    CUMBER EXCL    NO 1    AUGUST 21/70
OCT. 15 TO APR. 15  =  1.91
APR. 15 TO JULY 1   =  3.10
JULY 1 TO SEPT. 1   =   .32
SEPT. 1 TO OCT. 15  =  1.92
SEASON TOTAL        =  7.25
LONG TERM AVERAGE   =  8.49
```

1901 CUMBER EXCL NO 1 AUGUST 21/70 INSIDE SPRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*CHVI	33.00	1.65		4				
3	AGSM	39.00	1.95	32.8	18	28.12	1.56	0.72	135.02
3	POSE	70.50	3.52	59.2	11	10.87	0.99	0.15	52.194
3	ORHY	3.00	.150	2.52	2	5.18	2.59	1.73	24.873
3	SIHY	6.50	.325	5.46	2	3.60	1.80	0.55	17.286
6	*PHMU	7.30	.365		11				
	TOTAL		7.97	100.00		47.770			229.38

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 31 CUMBER EXCL NO 1 AUGUST 21/70
OCT. 15 TO APR. 15 = 1.91
APR. 15 TO JULY 1 = 3.10
JULY 1 TO SEPT. 1 = .32
SEPT. 1 TO OCT. 15 = 1.92
SEASON TOTAL = 7.25
LONG TERM AVERAGE = 8.49

```
          1901   CUMBER EXCL   NO 1   AUGUST 21/70  OUT    SPRAY

                          NUMBER PLOTS = 20
                           PLOT SIZE 1X1

PLANT  PLANT  TOTAL  AVE.    PERCENT  ABS.    TOTAL    AVE.      WGT./  LBS
CODE   NAME   TRANS  PER-    COMPO-   PLOT    WGT.     WGT.      UNIT   PER
              BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT      BASAL  AC.
              AREA   BASAL            BASE    SQ.FT.  OCCUR-     AREA
              PER-   AREA             20              RENCES
              CENT


 6   *ARTR     0.50 2.50E-02             1
 6   *CHVI    29.00 1.45                 4
 3    AGSM    34.20 1.71      32.8      19     17.43    0.92   0.51   83.694
 3    POSE    64.00 3.20      61.4      10      2.04    0.20   0.03   9.7955
 3    SIHY     3.50 .175      3.36       4      0.84    0.21   0.24   4.0334
  ANN FORBS    1.50 7.50E-02             6      0.35    0.06   0.23   1.6806
 4    LARE     0.10 T        9.60E-02    1
 4    MONU     1.40 7.00E-02 1.34        6
  PER FORBS    1.00 5.00E-02             1      0.46    0.46   0.46   2.2088
 2    SPCU     1.00 5.00E-02 .960        1
 6   *PHMU     1.60 8.00E-02             8

   TOTAL            6.77    100.00            21.120                   101.41

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 31    CUMBER EXCL    NO 1   AUGUST 21/70
OCT. 15 TO APR. 15  =  1.91
APR. 15 TO JULY 1   =  3.10
JULY 1 TO SEPT. 1   =   .32
SEPT. 1 TO OCT. 15  =  1.92
SEASON TOTAL        =  7.25
LONG TERM AVERAGE   =  8.49
```

```
          1201   CUMBER EXCL   NO.2   AUGUST 20/70  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
               BASAL  CENT    SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
               AREA   BASAL             BASE    SQ.FT.  OCCUR-  AREA
               PER-   AREA              20              RENCES
               CENT


  6    *ARAK   214.00 10.7                9
  6    *CHVI   135.00 6.75               15
  6    *PHLO     6.00 .300                7
  6    *PHHO    16.00 .800                2
  3     POSE    30.00 1.50       22.0     5      3.65    0.73    0.12   17.526
  3     STCO     5.50 .275       4.04     3      2.79    0.93    0.51   13.397
  3     POFE    43.00 2.15       31.6     9      9.32    1.04    0.22   44.752
  3     ELCI     4.50 .225       3.30     3      1.74    0.58    0.39   8.3549
  3     AGSM    52.50 2.63       38.5    19     32.11    1.69    0.61   154.18
 ANN FORBS      0.50 2.50E-02             1      0.11    0.11    0.22   .52819
  4     CHAL     0.50 2.50E-02 .367       1
  6    *ERMI    17.00 .850                3
 PER FORBS      0.20 1.00E-02             1      0.08    0.08    0.40   .38414
  2      AST     0.20 T          .147     1

     TOTAL             26.21   100.00          49.800                   239.12

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 32   CUMBER EXCL   NO.2   AUGUST 20/70
OCT. 15 TO APR. 15 = 2.00
APR. 15 TO JULY 1  = 2.90
JULY 1 TO SEPT. 1  =  .95
SEPT. 1 TO OCT. 15 = 2.30
SEASON TOTAL       = 8.15
LONG TERM AVERAGE  = 9.14
```

```
        1201   CUMBER EXCL   NO.2   AUGUST 20/70  OUTSID NATIVE

                          NUMBER PLOTS = 20
                           PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.   WGT.   UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
               AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
               PER-   AREA            20            RENCES
               CENT


  6   *ARAR   371.00 18.5              15
  6   *CHVI    27.00 1.35               3
  6   *TECA     8.00 .400               1
  3    AGSM    17.90 .895      20.8    11     5.19    0.47  0.29  24.921
  3    POSE    19.50 .975      22.6     9     1.75    0.19  0.09  8.4030
  3    POFE    42.50 2.13      49.3    13     8.80    0.68  0.21  42.255
  3    STCU     3.00 .150      3.48     1     0.06    0.06  0.02  .28810
   PER FORBS    3.30 .165               8     1.79    0.22  0.54  8.5950
  2    LITE     2.10 .105      2.44     4
  2     TRI     1.20 6.00E-02  1.39     4
  6   *ERFL     8.00 .400               2
  6   *PHHO    15.00 .750               4
  6   *ERMI    22.90 1.14               9
  6   *PHLO     4.30 .215              11

    TOTAL           27.12    100.00          17.590                84.462

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 32    CUMBER EXCL   NO.2   AUGUST 20/70
OCT. 15 TO APR. 15  = 2.00
APR. 15 TO JULY 1   = 2.90
JULY 1 TO SEPT. 1   =  .95
SEPT. 1 TO OCT. 15  = 2.30
SEASON TOTAL        = 8.15
LONG TERM AVERAGE   = 9.14
```

```
          1201   CUMBER EXCL   NO.2   AUGUST 20/70   INSIDE SPRAY

                              NUMBER PLOTS = 20
                               PLOT SIZE 1X1

PLANT   PLANT   TOTAL   AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL            BASE    SQ.FT.  OCCUR-  AREA
                PER-    AREA             20              RENCES
                CENT


  3     KOCR     0.50 2.50E-02 .381        1      0.54    0.54   1.08   2.5929
  3     POFE    25.00 1.25     19.0        9      7.75    0.86   0.31   37.213
  3     PUSE    12.00 .600     9.14        6      1.77    0.30   0.15   8.4990
  3     AGSM    90.00 4.50     68.5       20     44.15    2.21   0.49   211.99
  6    *ERMI     5.50 .275                 2
  6    *ERFL     5.00 .250                 2
   PER FORBS     3.80 .190                10      0.47    0.05   0.12   2.2568
  2      TRI     3.80 .190     2.89       10
  6    *PHLO     0.80 4.00E-02             4
  6    *PHMU     2.10 .105                 4
  6    *CHVI    25.00 1.25                 1

    TOTAL             8.49   100.00             54.680                  262.56

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 32    CUMBER EXCL   NO.2   AUGUST 20/70
OCT. 15 TO APR. 15  = 2.00
APR. 15 TO JULY 1   = 2.90
JULY 1 TO SEPT. 1   =  .95
SEPT. 1 TO OCT. 15  = 2.30
SEASON TOTAL        = 8.15
LONG TERM AVERAGE   = 9.14
```

```
          1201    CUMBER EXCL    NO.2    AUGUST 20/70  OUTSID SPRAY

                              NUMBER PLOTS = 20
                               PLOT SIZE 1X1

PLANT   PLANT    TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME     TRANS   PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                 BASAL   CENT    SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
                 AREA    BASAL             BASE    SQ.FT.  OCCUR-  AREA
                 PER-    AREA              20              RENCES
                 CENT


  3     KOCR      4.00  .200       2.46       3      0.40    0.13  0.10  1.9207
  3     POFE     20.00  1.00       12.3       7      1.90    0.27  0.10  9.1232
  3     POSE     75.00  3.75       46.1      13      3.26    0.25  0.04  15.654
  3     AGSM     62.00  3.10       38.1      20     14.45    0.72  0.23  69.384
  6    *CHVI     11.00  .550                  3
  6    *ERMI      3.00  .150                  1
  6    *PHLO      3.10  .155                  5
  6    *ERFL      2.00  .100                  1
   PER FORBS      1.80  9.00E-02              6      0.30    0.05  0.17  1.4405
  2       TRI     1.80  9.00E-02  1.11        6

     TOTAL              9.10    100.00             20.310                97.522

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO.32     CUMBER EXCL    NO.2    AUGUST 20/70
OCT. 15 TO APR. 15  = 2.00
APR. 15 TO JULY 1   = 2.90
JULY 1 TO SEPT. 1   =  .95
SEPT. 1 TO OCT. 15  = 2.30
SEASON TOTAL        = 8.15
LONG TERM AVERAGE   = 9.14
```

1202 CUMBER EXCL NO.3 AUGUST 20/70 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	326.00	16.3		10				
6	*CHVI	14.00	.700		6				
6	*ERMI	11.00	.550		4				
6	*PHHU	32.50	1.63		4				
6	*PHLO	6.80	.340		13				
3	POFE	42.00	2.10	55.6	9	12.49	1.39	0.30	59.973
3	POSE	15.60	.780	20.7	9	1.03	0.11	0.07	4.9457
3	AGSM	7.50	.375	9.93	14	7.38	0.53	0.98	35.436
3	AGSP	10.00	.500	13.2	5	8.41	1.68	0.84	40.382
PER	FORBS	0.30	1.50E-02		3	0.03	0.01	0.10	.14405
2	TRI	0.30	1.50E-02	.397	3				
ANN	FORBS	0.10	5.00E-03		1	0.12	0.12	1.20	.57620
4	ARA	0.10	T	.132	1				
	TOTAL		23.29	100.00		29.460			141.46

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 33 CUMBER EXCL NO.3 AUGUST 20/70
OCT. 15 TO APR. 15 = 3.18
APR. 15 TO JULY 1 = 2.95
JULY 1 TO SEPT. 1 = .63
SEPT. 1 TO OCT. 15 = 2.71
SEASON TOTAL = 9.47
LONG TERM AVERAGE =10.95

1202 CUMBER EXCL NO.3 AUGUST 20/70 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PERCENT	AVE. PERCENT BASAL AREA	PERCENT COMPOSITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCURRENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	468.00	23.4		12				
6	*CHVI	33.60	1.68		5				
3	AGSM	17.10	.855	44.9	13	7.31	0.56	0.43	35.100
3	POSL	10.00	.500	26.2	6	0.98	0.16	0.10	4.7057
3	POFE	11.00	.550	28.9	6	4.20	0.70	0.38	20.167
6	*PHLO	12.60	.630		12				
6	*PHHO	18.10	.905		6				
6	*ERMI	64.00	3.20		7				
	TOTAL		31.77	100.00		12.490			59.973

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 33 CUMBER EXCL NO.3 AUGUST 20/70
OCT. 15 TO APR. 15 = 3.18
APR. 15 TO JULY 1 = 2.95
JULY 1 TO SEPT. 1 = .63
SEPT. 1 TO OCT. 15 = 2.71
SEASON TOTAL = 9.47
LONG TERM AVERAGE = 10.95

```
          1202   CUMBER EXCL   NO.3   AUGUST 20/70  INSIDE SPRAY

                                NUMBER PLOTS = 20
                                  PLOT SIZE 1X1

PLANT   PLANT   TOTAL   AVE.     PERCENT   ABS.    TOTAL   AVE.     WGT./   LBS
CODE    NAME    TRANS   PER-     COMPO-    PLOT    WGT.    WGT.     UNIT    PER
                BASAL   CENT     SITION    FREQ.   GMS/20  /PLOT    BASAL   AC.
                AREA    BASAL              BASE    SQ.FT.  OCCUR-   AREA
                PER-    AREA               20              RENCES
                CENT

  6    *CHVI     3.10 .155                    2
  3     AGSM   134.50 6.72        58.3       18     55.84    3.10   0.42   268.13
  3     POFL    28.00 1.40        12.1        8     16.00    2.00   0.57   76.827
  3     AGSP    17.00 .850        7.37        3      5.71    1.90   0.34   27.418
  3     POSE    44.00 2.20        19.1        3      2.24    0.75   0.05   10.756
  3     ORHY     7.00 .350        3.03        1      2.36    2.36   0.34   11.332
  6    *PHLO     7.10 .355                    6
   PER FORBS     0.30 1.50E-02                3      0.75    0.25   2.50   3.6013
  2     AST      0.20 1.00E-02 8.67E-02       2
  2     TRI      0.10 T        4.33E-02       1
  6    *ERMI    18.00 .900                    1

     TOTAL          12.95     100.00                82.900                  398.06

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 33    CUMBER EXCL    NO.3    AUGUST 20/70
OCT. 15 TO APR. 15 = 3.18
APR. 15 TO JULY 1  = 2.95
JULY 1 TO SEPT. 1  =  .63
SEPT. 1 TO OCT. 15 = 2.71
SEASON TOTAL       = 9.47
LONG TERM AVERAGE  =10.95
```

1202 CUMBER EXCL NO.3 AUGUST 20/70 OUT SPRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	0.50	2.50E-02		1				
6	*CHVI	19.00	.950		3				
3	AGSM	35.60	1.78	36.7	17	30.71	1.81	0.86	147.46
3	POSL	26.50	1.32	27.3	12	2.86	0.24	0.11	13.733
3	POFE	15.50	.775	16.0	4	3.21	0.80	0.21	15.413
3	STCO	8.00	.400	8.25	3	2.59	0.86	0.32	12.436
3	KOCR	3.00	.150	3.09	2	0.45	0.23	0.15	2.1608
3	AGSP	8.00	.400	8.25	2	9.80	4.90	1.23	47.057
ANN	FORBS	0.20	1.00E-02		1	0.43	0.43	2.15	2.0647
4	DEPI	0.10	T	.103	1				
4	CHAL	0.10	T	.103	1				
PER	FORBS	0.20	1.00E-02		2	0.04	0.02	0.20	.19207
2	TRI	0.20	1.00E-02	.206	2				
6	*PHLO	8.90	.445		15				
6	*PHHO	14.10	.705		4				
6	*ERMI	24.00	1.20		3				
	TOTAL		8.18	100.00		50.090			240.52

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 33 CUMBER EXCL NO.3 AUGUST 20/70
OCT. 15 TO APR. 15 = 3.18
APR. 15 TO JULY 1 = 2.95
JULY 1 TO SEPT. 1 = .63
SEPT. 1 TO OCT. 15 = 2.71
SEASON TOTAL = 9.47
LONG TERM AVERAGE = 10.95

```
        1902   CUMBER EXCL   NO.4   AUGUST 21/70  INSIDE NATIVE

                          NUMBER PLOTS = 20
                           PLOT SIZE 1X1

PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.   WGT.   UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
              AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
              PER-   AREA            20            RENCES
              CENT


 1     ATNU   247.00 12.3     44.0     13    23.15   1.78  0.09  111.16
 1     ARSP   255.00 12.8     45.5     11     9.47   0.86  0.04  45.472
 3     SIHY    29.00 1.45     5.17     18    26.06   1.45  0.90  125.13
 3     ORHY    30.00 1.50     5.35      1    10.21  10.21  0.34  49.025
 6    *PHHO     0.10 T                  1
 6    *TESP    10.00 .500               1
 6    *EULA    23.00 1.15               1

    TOTAL          29.71   100.00            68.890               330.79

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 34   CUMBER EXCL   NO.4   AUGUST 21/70
OCT. 15 TO APR. 15  =  2.20
APR. 15 TO JULY 1   =  2.90
JULY 1 TO SEPT. 1   =   .30
SEPT. 1 TO OCT. 15  =  1.91
SEASON TOTAL        =  7.31
LONG TERM AVERAGE   =  8.22
```

```
            1902   CUMBER EXCL   NO.4   AUGUST 21/70  OUT     NATIVE

                                 NUMBER PLOTS = 20
                                   PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.   TOTAL   AVE.     WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT   WGT.    WGT.     UNIT   PER
               BASAL  CENT    SITION   FREQ.  GMS/20  /PLOT    BASAL  AC.
               AREA   BASAL            BASE   SQ.FT.  OCCUR-   AREA
               PER-   AREA             20             RENCES
               CENT


 6   *TESP    43.00 2.15                 3
 3    POSE     2.00 .100      .395       1      0.21    0.21    0.11   1.0084
 3    ORHY     2.00 .100      .395       1      1.00    1.00    0.50   4.8017
 3    SIHY    26.70 1.33      5.27      10      5.77    0.58    0.22   27.706
 1    ARSP    34.50 1.72      6.81       5      6.57    1.31    0.19   31.547
 1    ATNU   441.60 22.1      87.1      16     36.72    2.30    0.08   176.32

    TOTAL          27.49    100.00             50.270                 241.38

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 34    CUMBER EXCL    NO.4    AUGUST 21/70
OCT. 15 TO APR. 15 =  2.20
APR. 15 TO JULY 1  =  2.90
JULY 1 TO SEPT. 1  =   .30
SEPT. 1 TO OCT. 15 =  1.91
SEASON TOTAL       =  7.31
LONG TERM AVERAGE  =  8.22
```

```
          2004   DEMER  EXC.         JULY   29/70  INSIDE NATIVE

                             NUMBER PLOTS = 20
                               PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL  AC.
               AREA   BASAL            BASE    SQ.FT.  OCCUR-  AREA
               PER-   AREA             20              RENCES
               CENT


 6    *ARTR    282.20 14.1               15
 3     AGSM      0.40 2.00E-02  .651      4      0.63    0.16   1.58  3.0251
 3     POSE     18.20 .910      29.6     15      2.55    0.17   0.14  12.244
 3     BOGR     42.50 2.13      69.2     11      4.67    0.42   0.11  22.424
 3     SIHY      0.10 T         .163      1      0.21    0.21   2.10  1.0084
  ANN GRASS      0.10 5.00E-03            1      0.01    0.01   0.10  4.8017E-02
 5     BRTE      0.10 T         .163      1
  ANN FORBS      0.10 5.00E-03            1      0.01    0.01   0.10  4.8017E-02
 4     CHAL      0.10 T         .163      1
 6    *OPPU     13.00 .650                4

    TOTAL             17.83    100.00          8.0800                 38.798

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO.8        DEMER  EXC.           JULY   29/70
OCT. 15 TO APR. 15 =  2.12
APR. 15 TO JULY 1  =  3.31
JULY 1 TO SEPT. 1  =   .87
SEPT. 1 TO OCT. 15 =   .48
SEASON TOTAL       =  6.78
LONG TERM AVERAGE  =  7.81
```

```
           2004   DEMER  EXC.           JULY   29/70    OUT  NATIVE

                              NUMBER PLOTS = 20
                               PLOT SIZE 1X1

PLANT   PLANT   TOTAL  AVE.     PERCENT  ABS.    TOTAL   AVE.    WGT./  LBS
CODE    NAME    TRANS  PER-     COMPO-   PLOT    WGT.    WGT.    UNIT   PER
                BASAL  CENT     SITION   FREQ.   GMS/20  /PLOT   BASAL  AC.
                AREA   BASAL             BASE    SQ.FT.  OCCUR-  AREA
                PER-   AREA              20              RENCES
                CENT


  6    *ARTR    176.00 8.80              11
  3     AGSM      2.70 .135       2.58   11        3.62   0.33  1.34  17.382
  3     POSE      4.30 .215       4.11   10        1.79   0.18  0.42  8.5950
  3     BUGR     96.60 4.83       92.3   16        5.68   0.36  0.06  27.274
  3     SIHY      1.00 5.00E-02 .955      1        0.38   0.38  0.38  1.8246
   ANN FORBS      0.10 5.00E-03           1        0.02   0.02  0.20  9.6034E-02
  4     CHAL      0.10 T          9.55E-02 1
  6    *OPPU      3.00 .150               2

    TOTAL             14.19    100.00           11.490                55.171

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 8      DEMER  EXC.           JULY   29/70
OCT. 15 TO APR. 15  =  2.12
APR. 15 TO JULY 1   =  3.31
JULY 1 TO SEPT. 1   =   .87
SEPT. 1 TO OCT. 15  =   .48
SEASON TOTAL        =  6.78
LONG TERM AVERAGE   =  7.81
```

```
          2005 DUTCH  NICK   EXCL   JULY   08/70  INSIDE NATIVE

                           NUMBER PLOTS = 20
                             PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.   WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.   GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL            BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA             20             RENCES
               CENT


  3    BOGR   287.00 14.3       98.9      20    53.85   2.69  0.19  258.57
  3    POSE     2.50 .125       .862       3     0.19   0.06  0.08  .91232
   ANN FORBS    0.60 3.00E-02              4     0.06   0.02  0.10  .28810
  4    PLPA     0.20 1.00E-02 6.89E-02  2
  4    LEDE     0.20 1.00E-02 6.89E-02  2
  4    LARE     0.10 T          3.45E-02  1
  4     GIL     0.10 T          3.45E-02  1
  6   *OPPO    72.00 3.60                 7

    TOTAL            18.11    100.00          54.100                259.77

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 4    DUTCH  NICK   EXCL   JULY   08/70
OCT. 15 TO APR. 15 = 1.75
APR. 15 TO JULY 1  = 2.78
JULY 1 TO SEPT. 1  =  .30
SEPT. 1 TO OCT. 15 =  .87
SEASON TOTAL       = 5.70
LONG TERM AVERAGE  = 6.87
```

```
                 2005 DUTCH  NICK   EXCL   JULY   08/70  OUTSID NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT   PLANT   TOTAL   AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL            BASE    SQ.FT.  OCCUR-  AREA
                PER-    AREA             20              RENCES
                CENT


  3     BOGR    298.50 14.9        97.0      18    37.40    2.08   0.13   179.58
  3     CRHY      1.50 7.50E-02 .487          2     1.40    0.70   0.93   6.7224
  3     SIHY      3.50 .175      1.14         3     2.88    0.96   0.82   13.829
  3     POSE      1.50 7.50E-02 .487          2     0.33    0.17   0.22   1.5846
  3     SPCR      0.50 2.50E-02 .162          1     0.62    0.62   1.24   2.9770
   ANN FORBS      1.70 8.50E-02               7     6.12    0.87   3.60   29.386
  4     LARE      0.70 3.50E-02 .227          3
  4     CHAL      0.50 2.50E-02 .162          5
  4     PLPA      0.30 1.50E-02 9.75E-02      3
  4     LEDE      0.20 1.00E-02 6.50E-02      2
   PER FORBS      0.50 2.50E-02               1     3.10    3.10   6.20   14.885
  2     SPCO      0.50 2.50E-02 .162          1
  6    *OPPO     20.00 1.00                   5

    TOTAL              16.39    100.00             51.850                  248.97

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 4     DUTCH   NICK    EXCL    JULY    08/70
OCT. 15 TO APR. 15  =  1.75
APR. 15 TO JULY 1   =  2.78
JULY 1 TO SEPT. 1   =   .30
SEPT. 1 TO OCT. 15  =   .87
SEASON TOTAL        =  5.70
LONG TERM AVERAGE   =  6.87
```

```
         0404    FARSON EXCL          AUGUST 19/70  INSIDE NATIVE

                            NUMBER PLOTS = 20
                             PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.   WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.   GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL           BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA            20             RENCES
               CENT


  6   *ARTR   202.00 10.1              12
  6   *PHHU    34.10 1.70               7
  6   *CHVI     2.00 .100               1
  6   *OPPU     2.00 .100               1
  3    AGSM    19.10 .955    52.9      19     11.38   0.60   0.60  54.643
  3    ORHY    17.00 .850    47.1       5      6.19   1.24   0.36  29.722

     TOTAL           13.81   100.00           17.570                84.366

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 2      FARSON EXCL              AUGUST 19/70
OCT. 15 TO APR. 15  = 1.31
APR. 15 TO JULY 1   = 2.07
JULY 1 TO SEPT. 1   =  .36
SEPT. 1 TO OCT. 15  =  .97
SEASON TOTAL        = 4.71
LONG TERM AVERAGE   = 6.29
```

```
          1007   GRANIT MOUNT  EXCL   AUGUST 25/70  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT   ABS.    TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-    PLOT    WGT.   WGT.    UNIT   PER
               BASAL  CENT    SITION    FREQ.   GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL             BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA              20.            RENCES
               CENT



      *ARTR    112.00 5.60                  5
      *CHVI     14.00 .700                  2
       AGSM     11.90 .595       5.87      17     16.12    0.95   1.35   77.403
       POSE     13.20 .660       6.51       9      3.18    0.35   0.24   15.269
       POFE    141.00 7.05       69.5      13     16.80    1.45   0.13   90.272
       ORHY      9.00 .450       4.44       2      4.05    2.03   0.45   19.447
   PER FORBS    26.00 1.30                 14      9.03    0.65   0.35   43.359
       ASMI     21.30 1.06       10.5       9
       ASPU      0.10 T          4.93E-02   1
       ERPU      1.00 5.00E-02 .493         6
       CALI      2.00 .100      .986        1
       TRI       1.10 5.50E-02 .542         3
       AGGL      0.50 2.50E-02 .247         1
   ANN FORBS     1.70 8.50E-02              4      2.85    0.71   1.68   13.685
       CORA      1.70 8.50E-02 .838         4
      *PHHO     57.50 2.88                 10

     TOTAL            17.32    100.00            54.030                 259.44

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

  RAIN GUAGE NO. 6      GRANIT MOUNT  EXCL   AUGUST 25/70
OCT. 15 TO APR. 15  =  4.05
APR. 15 TO JULY 1   =  4.00
JULY 1 TO SEPT. 1   =   .52
SEPT. 1 TO OCT. 15  =   .99
SEASON TOTAL        =  9.56
LONG TERM AVERAGE   =  8.73
```

```
        1007   GRANIT MOUNT  EXCL   AUGUST 25/70  OUT    NATIVE

                           NUMBER PLOTS = 20
                             PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.   WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL           BASE   SQ.FT. OCCUR-  AREA
               PER-   AREA            20            RENCES
               CENT


 6   *ARTR    311.00 15.5               11
 3    AGSM     10.80 .540      8.86     16    11.72   0.73  1.09  56.276
 3    POSE     15.60 .780      12.8      8     1.14   0.14  0.07  5.4739
 3    POFE     84.00 4.20      68.9     16    11.55   0.72  0.14  55.460
 3    ORHY      2.00 .100      1.64      1     0.75   0.75  0.38  3.6013
  PER FORBS     9.50 .475               16     3.33   0.21  0.35  15.990
 2    ASMI      2.10 .105      1.72      2
 2    TRI       1.20 6.00E-02 .984       8
 2    ERPU      6.00 .300      4.92     11
 2    CALI      0.20 1.00E-02 .164       2
 6   *PHHO     78.00 3.90               14

    TOTAL            25.55    100.00          28.490                136.80

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 6    GRANIT MOUNT  EXCL   AUGUST 25/70
OCT. 15 TO APR. 15 = 4.05
APR. 15 TO JULY 1  = 4.00
JULY 1 TO SEPT. 1  =  .52
SEPT. 1 TO OCT. 15 =  .99
SEASON TOTAL       = 9.56
LONG TERM AVERAGE  = 8.73
```

```
          1007   GRANIT MOUNT   EXCL    AUGUST 25/70  INSIDE SPRAY

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT   PLANT   TOTAL  AVE.     PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS  PER-     COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                BASAL  CENT     SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA   BASAL              BASE    SQ.FT.  OCCUR-  AREA
                PER-   AREA               20              RENCES
                CENT


  3     AGSM     29.70 1.48        11.5      20     44.40    2.22   1.49   213.20
  3     POSE      1.50 7.50E-02 .583          2      0.52    0.26   0.35   2.4969
  3     POFE    220.00 11.0        85.5      20     52.08    2.60   0.24   250.07
   PER  FORBS     6.10 .305                  10      3.21    0.32   0.53   15.413
  2     ASMI      5.10 .255        1.98       4
  2     TRI       0.30 1.50E-02 .117          3
  2     AST       0.10 T           3.89E-02   1
  2     ERPU      0.60 3.00E-02 .233          2
  6    *PHHO      1.00 5.00E-02               1

     TOTAL             12.92    100.00              100.21                 481.18

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 6      GRANIT MOUNT   EXCL    AUGUST 25/70
OCT. 15 TO APR. 15  = 4.05
APR. 15 TO JULY 1   = 4.00
JULY 1 TO SEPT. 1   =  .52
SEPT. 1 TO OCT. 15  =  .99
SEASON TOTAL        = 9.56
LONG TERM AVERAGE   = 8.73
```

1007 GRANIT MOUNT EXCL AUGUST 25/70 OUT SPRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	221.50	11.1		10				
6	*CHVI	8.00	.400		1				
3	AGSM	29.00	1.45	30.2	20	20.89	1.04	0.72	100.31
3	POSE	21.00	1.05	21.9	13	2.80	0.22	0.13	13.445
3	POFE	38.00	1.90	39.6	13	4.85	0.37	0.13	23.288
3	SIHY	1.00	5.00E-02	1.04	1	0.89	0.89	0.89	4.2735
PER	FORBS	6.90	.345		10	2.46	0.25	0.36	11.812
2	ASMI	2.60	.130	2.71	6				
2	ERPU	3.50	.175	3.65	3				
2	TRI	0.80	4.00E-02	.834	4				
6	*PHHO	17.00	.850		4				
	TOTAL		17.12	100.00		31.890			153.13

* NOT COMPUTED IN PERCENT COMPOSITION
T = TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 6 GRANIT MOUNT EXCL AUGUST 25/70
OCT. 15 TO APR. 15 = 4.05
APR. 15 TO JULY 1 = 4.00
JULY 1 TO SEPT. 1 = .52
SEPT. 1 TO OCT. 15 = .99
SEASON TOTAL = 9.56
LONG TERM AVERAGE = 8.73

```
          0901    HALOGE PASTUR EXCL 1 JULY   14/70  INSIDE NATIVE

                               NUMBER OF PLOTS
                         COVER = 200, PRODUCTION = 20
                          PLOT SIZE 1 FT. X 10 FT.

PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.    TOTAL    AVE.     WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-    PLOT    WGT.     WGT.     UNIT    PER
                BASAL   CENT    SITION    FREQ.   GMS/     /PLOT    BASAL   AC.
                AREA    BASAL             BASE    200      OCCUR-   AREA
                PER-    AREA              200     SQ.FT.   RENCES
                CENT


  6   *ARTR      46.0   .230                2
  6   *APPO       0.5   T                   1
  1    ATNU    4095.6   20.5      99.9    132   1058.23    8.02    0.26    508.13
  1    ARSP       2.0   T       4.88E-02    1      0.20    0.20    0.10    9.6034E-02
  3    SIHY       1.6   T       3.90E-02    4      0.99    0.25    0.62    .47537
   ANN FORBS      0.1   5.00E-04            1      0.27    0.27    2.70    .12965
  4    LEDE       0.1   T         T         1
   PER FORBS      0.1   5.00E-04            1      0.02    0.02    0.20    9.6034E-03
  2    ALTE       0.1   T         T         1

     TOTAL              20.7    100.00           1059.7                    508.840

         * NOT COMPUTED IN PERCENT COMPOSITION
         T = TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 24      HALOGE PASTUR EXCL 1 JULY   14/70
OCT. 15 TO APR. 15  = 1.37
APR. 15 TO JULY 1   =  .35
JULY 1 TO SEPT. 1   = 1.77
SEPT. 1 TO OCT. 15  = 1.31
SEASON TOTAL        = 4.80
LONG TERM AVERAGE   = 5.40
```

```
0902   HALOGE PASTUR EXCL 2 JULY   14770  OUTSID NATIVE

                         NUMBER OF PLOTS
                COVER = 200, PRODUCTION = 20
                  PLOT SIZE 1 FT. X 10 FT.

PLANT   PLANT   TOTAL   AVE.    PERCENT  ABS.    TOTAL    AVE.     WGT./   LBS
CODE    NAME    TRANS   PER=    COMPO=   PLOT    WGT.     WGT.     UNIT    PER
                BASAL   CENT    SITION   FREQ.   GMS/     /PLOT    BASAL   AC.
                AREA    BASAL            BASE    200      OCCUR=   AREA
                PER-    AREA             200     SQ.FT.   RENCES
                CENT

  1    ATNU    1928.2   9.64      79.0    157    470.33    3.00    0.24   225.84
  3    SIHY     270.7   1.40      11.5     76    193.01    2.54    0.69   92.677
  3    POSE     231.9   1.16      9.50     68    142.31    2.09    0.61   68.333
   PER FORBS      0.2   1.000E-03           2      0.22    0.11    1.10   .10564
  2    ALTE       0.2   T         T         2

     TOTAL             12.2     100.00            805.87                  386.954

         * NOT COMPUTED IN PERCENT COMPOSITION
         T - TRACE


   PRECIPITATION DATA

   RAIN GUAGE NO. 24    HALOGE PASTUR EXCL 2 JULY    14770
   OCT. 15 TO APR. 15  = 1.37
   APR. 15 TO JULY 1   =  .35
   JULY 1 TO SEPT. 1   = 1.77
   SEPT. 1 TO OCT. 15  = 1.31
   SEASON TOTAL        = 4.80
   LONG TERM AVERAGE   = 5.40
```

```
0903   HALOGE PASTUR EXCL 3 JULY   15/70  INSIDE NATIVE

                         NUMBER OF PLOTS
                  COVER = 200, PRODUCTION = 20
                    PLOT SIZE 1 FT. X 10 FT.

PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL    AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.     WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.   GMS/     /PLOT   BASAL  AC.
               AREA   BASAL           BASE    200      OCCUR-  AREA
               PER-   AREA            200     SQ.FT.   RENCES
               CENT


  1   ATNU   4658.2  23.3      94.2      151    803.03    5.32  0.17  385.59
  1   ARSP     96.0  .480      1.94       11      9.92    0.90  0.10  4.7633
  6  *OPPH      1.0  T                     2
  3   SIHY    181.9  .909      3.68       59    106.06    1.80  0.58  50.927
   ANN FORBS    3.4  1.70E-02              8      6.05    0.76  1.78  2.9050
  4   DEPI      1.4  T         2.83E-02    6
  4   MATA      2.0  T         4.05E-02    2
   PER FORBS    3.1  1.55E-02             31      5.11    0.16  1.65  2.4537
  2   ALTE      3.1  1.55E-02  6.27E-02   31

    TOTAL            24.7    100.00             930.17               446.639

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 24      HALOGE PASTUR EXCL 3 JULY   15/70
OCT. 15 TO APR. 15  = 1.37
APR. 15 TO JULY 1   =  .35
JULY 1 TO SEPT. 1   = 1.77
SEPT. 1 TO OCT. 15  = 1.31
SEASON TOTAL        = 4.80
LONG TERM AVERAGE   = 5.40
```

```
        0904   HALCGE PASTUR NO.1   JULY   15/70  OUT    NATIVE

                          NUMBER OF PLOTS
                   COVER = 200, PRODUCTION = 20
                         PLOT SIZE 1 FT. X 10 FT.

  PLANT  PLANT   TOTAL  AVE.    PERCENT   ABS.   TOTAL  AVE.    WGT./  LBS
  CODE   NAME    TRANS  PER-    COMPO-    PLOT   WGT.   WGT.    UNIT   PER
                 BASAL  CENT    SITION    FREQ.  GMS/   /PLOT   BASAL  AC.
                 AREA   BASAL             BASE   200    OCCUR-  AREA
                 PER-   AREA              200    SQ.FT. RENCES
                 CENT


   1    ATNU   3873.1  19.4      99.9       159   757.60   4.76   0.20  363.78
   1    ARSP      2.0  T        5.16E-02   1       0.44   0.44   0.22  .21127
   3    SIHY      3.1  1.55E-02 7.99E-02   4       2.30   0.58   0.74  1.1044
  ANN FORBS       0.7  3.50E-03            7       3.56   0.51   5.09  1.7094
   4    MATA      0.6  T        1.55E-02   6
   4    HAGL      0.1  T        T          1
   6   *OPPO      6.5  3.25E-02            2

       TOTAL          17.4     100.00             763.90                366.801

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


  PRECIPITATION DATA

   RAIN GUAGE NO.24     HALCGE PASTUR NO.1    JULY    15/70
  OCT. 15 TO APR. 15  = 1.37
  APR. 15 TO JULY 1   =  .35
  JULY 1 TO SEPT. 1   = 1.77
  SEPT. 1 TO OCT. 15  = 1.31
  SEASON TOTAL        = 4.80
  LONG TERM AVERAGE   = 5.40
```

```
        0905   HALOGE PASTUR NO.2   JULY   14/70  OUTSID NATIVE

                        NUMBER OF PLOTS
                 COVER = 200, PRODUCTION = 20
                  PLOT SIZE 1 FT. X 10 FT.

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.   TOTAL    AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT   WGT.     WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.  GMS/     /PLOT   BASAL  AC.
               AREA   BASAL            BASE   200      OCCUR-  AREA
               PER-   AREA             200    SQ.FT.   RENCES
               CENT

  1   ATNU   3995.5  20.0        98.2    133  1329.22    9.99   0.33  638.25
  6  *OPPO     10.6  5.30E-02              3
  3   SIHY      7.5  3.75E-02  .184        6     9.09    1.52   1.21  4.3647
  3   POSE     15.0  7.50E-02  .368       10     5.75    0.58   0.38  2.7610
  ANN FORBS    52.0  .260                 11     0.81    0.07   0.02  .38894
  4   HAGL     51.8  .259      1.27        9
  4   DEPI      0.1  T         T           1
  4   LARE      0.1  T         T           1
  PER FORBS     0.7  3.50E-03              7     0.70    0.10   1.00  .33612
  2   ALTE      0.7  T         1.72E-02    7

    TOTAL            20.4      100.00         1345.57                 646.101

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 24     HALOGE PASTUR NO.2    JULY    14/70
OCT. 15 TO APR. 15  =  1.37
APR. 15 TO JULY 1   =   .35
JULY 1 TO SEPT. 1   =  1.77
SEPT. 1 TO OCT. 15  =  1.31
SEASON TOTAL        =  4.80
LONG TERM AVERAGE   =  5.40
```

```
       0907   HALUGE PASTUR NO.4A   JULY   14/70  OUTSID NATIVE

                          NUMBER OF PLOTS
                   COVER = 200, PRODUCTION = 20
                       PLOT SIZE 1 FT. X 10 FT.

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.   TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT   WGT.    WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.  GMS/    /PLOT   BASAL  AC.
               AREA   BASAL            BASE   200     OCCUR-  AREA
               PER-   AREA             200    SQ.FT.  RENCES
               CENT

 1   ATNU   3417.5  17.1       99.5    170   800.30    4.71  0.23  384.28
 6  *OPPO      0.5  T                    1
 3   SIHY      9.6  4.80E-02 .280        5     5.83    1.17  0.61  2.7994
  ANN FORBS    1.2  6.00E-03            11     0.84    0.08  0.70  .40334
 4   HAGL      1.0  T          2.91E-02 10
 4   LARE      0.2  T          T         2
  PER FORBS    5.0  2.50E-02            46     6.33    0.14  1.27  3.0395
 2   ALTE      5.0  2.50E-02 .146       46

    TOTAL          17.2     100.00           813.30               390.522

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 24    HALUGE PASTUR NO.4A   JULY   14/70
OCT. 15 TO APR. 15  = 1.37
APR. 15 TO JULY 1   =  .35
JULY 1 TO SEPT. 1   = 1.77
SEPT. 1 TO OCT. 15  = 1.31
SEASON TOTAL        = 4.80
LONG TERM AVERAGE   = 5.40
```

```
                0908   HALOGE PASTUR NO.4B   JULY    14/70   OUTSID NATIVE

                                  NUMBER OF PLOTS
                          COVER = 200, PRODUCTION = 20
                             PLOT SIZE 1 FT. X 10 FT.

     PLANT  PLANT    TOTAL  AVE.     PERCENT  ABS.     TOTAL    AVE.     WGT./  LBS
     CODE   NAME     TRANS  PER-     COMPO-   PLOT     WGT.     WGT.     UNIT   PER
                     BASAL  CENT     SITION   FREQ.    GMS/     /PLOT    BASAL  AC.
                     AREA   BASAL             BASE     200      OCCUR-   AREA
                     PER-   AREA              200      SQ.FT.   RENCES
                     CENT


      6   *ARTR       1.0  T                      1
      6   *OPPU      21.0  .105                   7
      1    ATNI    4360.7  21.8        97.9     182    810.68    4.45   0.19   389.26
      3    SIHY      90.2  .451        2.03      90     85.50    0.95   0.95   41.054
       ANN FORBS      0.2  1.00E-03               2      0.51    0.26   2.55   .24489
      4    MATA       0.1  T           T          1
      4    LARE       0.1  T           T          1
       PER FORBS      1.5  7.50E-03              14      0.96    0.07   0.64   .46096
      2    ALTE       1.5  T           3.37E-02  14

          TOTAL           22.4        100.00            897.65                 431.024

             * NOT COMPUTED IN PERCENT COMPOSITION
             T - TRACE


     PRECIPITATION DATA

      RAIN GUAGE NO. 24    HALOGE PASTUR NO.4B   JULY    14/70
     OCT. 15 TO APR. 15  = 1.37
     APR. 15 TO JULY 1   =  .35
     JULY 1 TO SEPT. 1   = 1.77
     SEPT. 1 TO OCT. 15  = 1.31
     SEASON TOTAL        = 4.80
     LONG TERM AVERAGE   = 5.40
```

```
           0909   HALCGE PASTUR NO.5    JULY    15/70  OUT      NATIVE

                            NUMBER CF PLOTS
                      COVER = 200, PRODUCTION = 20
                        PLOT SIZE 1 FT. X 10 FT.

PLANT  PLANT   TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE   NAME    TRANS   PER-    CUMPO-    PLOT    WGT.    WGT.    UNIT    PER
               BASAL   CENT    SITION    FREQ.   GMS/    /PLOT   BASAL   AC.
               AREA    BASAL             BASE    200     OCCUR-  AREA
               PER-    AREA              200     SQ.FT.  RENCES
               CENT


  1    ATNU   2707.9   13.5      96.3     163    608.33   3.73   0.22   292.10
  3    SIHY    101.6   .508      3.61      60    111.47   1.86   1.10   53.524
   ANN FORBS     1.4   7.00E-03            13      0.97   0.07   0.69   .46576
  4    HAGL      0.6   T       2.13E-02     6
  4    DEPI      0.5   T       1.78E-02     5
  4    LARE      0.2   T       T            2
  4    MATA      0.1   T       T            1
   PER FORBS     0.5   2.50E-03             5      1.16   0.23   2.32   .55700
  2    ALTE      0.5   T       1.78E-02     5
  6   *OPPO     55.7   .278                 5

     TOTAL             14.3    100.00            721.93                346.649

       * NOT COMPUTED IN PERCENT COMPOSITION
       T = TRACE


   PRECIPITATION DATA

    RAIN GUAGE NO. 24    HALCGE PASTUR NO.5    JULY    15/70
   OCT. 15 TO APR. 15  = 1.37
   APR. 15 TO JULY 1   =  .35
   JULY 1 TO SEPT. 1   = 1.77
   SEPT. 1 TO OCT. 15  = 1.31
   SEASON TOTAL        = 4.80
   LONG TERM AVERAGE   = 5.40
```

```
    091C   HALOGE PASTUR NO.6   JULY   15/70  OUTSID NATIVE

                    NUMBER OF PLOTS
            COVER = 200, PRODUCTION = 20
             PLOT SIZE 1 FT. X 10 FT.

PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL   AVE.    WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.    WGT.    UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/    /PLOT   BASAL  AC.
              AREA   BASAL           BASE   200     OCCUR-  AREA
              PER-   AREA            200    SQ.FT.  RENCES
              CENT

 1   ATNU    3266.0  16.3       96.9    157   831.69   5.30  0.25  399.35
 6  *OPPO       8.0  4.00E-02             2
 3   SIHY     103.2  .516       3.06     46   140.78   3.06  1.36  67.598
  ANN FORBS     0.2  1.00E-03             2     1.55   0.78  7.75  .74426
 4   MATA       0.2  1          T         2
  PER FORBS     2.8  1.40E-02            20     4.33   0.22  1.55  2.0791
 2   ALTE       2.8  1.40E-02 8.30E-02   20

   TOTAL             16.9     100.00          978.35                469.774

     * NOT COMPUTED IN PERCENT COMPOSITION
     T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 24  HALOGE PASTUR NO.6   JULY   15/70
OCT. 15 TO APR. 15  =  1.37
APR. 15 TO JULY 1   =   .35
JULY 1 TO SEPT. 1   =  1.77
SEPT. 1 TO OCT. 15  =  1.31
SEASON TOTAL        =  4.80
LONG TERM AVERAGE   =  5.40
```

```
       0911   HALOGE PASTUR NO.7A  JULY   15/70  OUT    NATIVE

                          NUMBER OF PLOTS
                     COVER = 200, PRODUCTION = 20
                      PLOT SIZE 1 FT. X 10 FT.

PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.    WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.   WGT.    UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/   /PLOT   BASAL  AC.
              AREA   BASAL           BASE   200    OCCUR-  AREA
              PER-   AREA            200    SQ.FT. RENCES
              CENT

 1   ATNU   4095.5  20.5       99.9     146   844.59    5.78  0.21  405.55
 3   SIHY      2.5  1.25E-02 6.10E-02   3       2.67    0.89  1.07  1.2821
  ANN FORBS    0.3  1.50E-03            3       0.44    0.15  1.47  .21127
 4   DEPI      0.2  T        T          2
 4   LARE      0.1  T        T          1
  PER FORBS    2.0  1.00E-02           20       4.38    0.22  2.19  2.1031
 2   ALTE      2.0  T        4.88E-02  20
 6  *OPPO     10.0  5.00E-02            2

    TOTAL           20.6     100.00           852.08                409.143

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 24    HALOGE PASTUR NO.7A  JULY   15/70
OCT. 15 TO APR. 15  = 1.37
APR. 15 TO JULY 1   =  .35
JULY 1 TO SEPT. 1   = 1.77
SEPT. 1 TO OCT. 15  = 1.31
SEASON TOTAL        = 4.80
LONG TERM AVERAGE   = 5.40
```

```
      0912   HALOGE PASTUR NO.7B   JULY    15/70  OUTSID NATIVE

                         NUMBER OF PLOTS
                 COVER = 200, PRODUCTION = 20
                     PLOT SIZE 1 FT. X 10 FT.

PLANT  PLANT   TOTAL   AVE.      PERCENT   ABS.    TOTAL     AVE.     WGT./   LBS
CODE   NAME    TRANS   PER-      COMPO-    PLOT    WGT.      WGT.     UNIT    PER
               BASAL   CENT      SITION    FREQ.   GMS/      /PLOT    BASAL   AC.
               AREA    BASAL               BASE    200       OCCUR-   AREA
               PER-    AREA                200     SQ.FT.    RENCES
               CENT

  1    ATNU    2956.5  14.8        97.3      139    501.22    3.61    0.17    240.67
  1    ARSP       0.1  T           T           1      0.47    0.47    4.70    .22568
  6   *OPPO      27.0  .135                    4
  3    SIHY      71.3  .356        2.35       36     63.97    1.78    0.90    30.716
  3    ORHY       9.0  4.50E-02 .296           2     30.52   15.26    3.39    14.655
   ANN FORBS      0.7  3.50E-03                3      0.82    0.27    1.17    .39374
  4    DEPI       0.1  T           T           1
  4    MATA       0.6  T         1.97E-02      2
   PER FORBS      1.3  5.50E-03               13      1.18    0.09    0.91    .56660
  2    ALTE       1.3  T         4.28E-02     13

     TOTAL             15.3      100.00             598.18                    287.228

         * NOT COMPUTED IN PERCENT COMPOSITION
         T = TRACE


  PRECIPITATION DATA

  RAIN GUAGE NO. 24   HALOGE PASTUR NO.7B   JULY   15/70
  OCT. 15 TO APR. 15 =  1.37
  APR. 15 TO JULY 1  =   .35
  JULY 1 TO SEPT. 1  =  1.77
  SEPT. 1 TO OCT. 15 =  1.31
  SEASON TOTAL       =  4.80
  LONG TERM AVERAGE  =  5.40
```

```
        0913   HORSE  CREEK  EXCL   JULY   30/70  INSIDE AGSM

                          NUMBER PLOTS = 20
                            PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT    WGT.    WGT.    UNIT    PER
               BASAL  CENT   SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
               AREA   BASAL           BASE    SQ.FT.  OCCUR-  AREA
               PER-   AREA            20              RENCES
               CENT


 6    *ARTR    39.00 1.95                3
 6    *GUSA     0.50 2.50E-02            1
 3     AGSM    62.60 3.13      86.3     20      50.48    2.52   0.81   247.39
 3     POSE     6.40 .320      8.83     12       3.91    0.33   0.61   18.775
 3     SIHY     0.10 T         .138      1       0.17    0.17   1.70   .81629
  ANN GRASS     1.10 5.50E-02            2       0.48    0.24   0.44   2.3048
 5     BRTE     1.10 5.50E-02 1.52       2
  ANN FORBS     2.30 .115               14       2.45    0.18   1.07   11.764
 4     DEPI     2.20 .110      3.03     14
 4     LARE     0.10 T         .138      1
 6    *OPPO     5.00 .250                1

    TOTAL            5.85     100.00            57.490                276.05

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 12    HORSE  CREEK  EXCL   JULY   30/70
OCT. 15 TO APR. 15 =  4.93
APR. 15 TO JULY 1  =  3.40
JULY 1 TO SEPT. 1  =  1.03
SEPT. 1 TO OCT. 15 =  1.95
SEASON TOTAL       = 11.31
LONG TERM AVERAGE  = 11.87
```

```
0913   HORSE  CREEK  EXCL.  JULY   30/70  OUT     AGSM

                    NUMBER PLOTS = 20
                      PLOT SIZE 1X1

PLANT   PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./  LBS
CODE    NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT   PER
                BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL  AC.
                AREA   BASAL            BASE    SQ.FT.  OCCUR-  AREA
                PER-   AREA             20              RENCES
                CENT


 6    *ARTR    129.50 6.47                10
 6    *GUSA      6.50 .325                 4
 3     AGSM     25.00 1.25       69.8     20      18.80     0.94   0.75   90.272
 3     POSE      9.50 .475       26.5      9       1.66     0.18   0.17   7.9708
 3     AGSP      0.70 3.50E-02 1.96        3       2.02     0.67   2.89   9.6994
  ANN GRASS      0.10 5.00E-03             1       0.07     0.07   0.70   .33612
 5     BRTE      0.10 T          .279      1
  ANN FORBS      0.40 2.00E-02             3       0.36     0.12   0.90   1.7280
 4     LARE      0.20 1.00E-02 .559        2
 4     DEPI      0.10 T          .279      1
 4     CHAL      0.10 T          .279      1
  PER FORBS      0.10 5.00E-03             1       0.06     0.06   0.60   .28810
 2     SPCO      0.10 T          .279      1
 6    *PHHU      6.50 .325                 6
 6    *OPPO      0.60 3.00E-02             2

   TOTAL              8.95     100.00            22.970                   110.29

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 12   HORSE  CREEK  EXCL.  JULY   30/70
OCT. 15 TO APR. 15 =  4.93
APR. 15 TO JULY 1  =  3.40
JULY 1 TO SEPT. 1  =  1.03
SEPT. 1 TO OCT. 15 =  1.95
SEASON TOTAL        = 11.31
LONG TERM AVERAGE   = 11.87
```

```
            0913   HORSE  CREEK  EXCL.  JULY   30/70  INSIDE AGSP

                               NUMBER PLOTS = 20
                                 PLOT SIZE 1X1

 PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL  AVE.   WGT./  LBS
 CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.   WGT.   UNIT   PER
                BASAL  CENT    SITION   FREQ.   GMS/20 /PLOT  BASAL  AC.
                AREA   BASAL            BASE    SQ.FT. OCCUR- AREA
                PER-   AREA             20             RENCES
                CENT


  6    *ARTR    243.00 12.1               10
  6    *GUSA     27.00 1.35                7
  3     AGSP    156.00 7.80      99.8     18     71.19    3.96   0.46   341.83
  ANN FORBS       0.10 5.00E-03            1      0.01    0.01   0.10   4.8017E-02
  4     DEPI      0.10 T       6.40E-02    1
  PER  FORBS      0.20 1.00E-02            2      0.11    0.06   0.55   .52819
  2     PEN       0.10 T       6.40E-02    1
  2     SPCO      0.10 T       6.40E-02    1
  6    *PHHU     18.00 .900                9
  6    *OPPO      5.00 .250                1

     TOTAL             22.47   100.00            71.310                 342.41

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


 PRECIPITATION DATA

  RAIN GUAGE NO. 12    HORSE  CREEK  EXCL.  JULY   30/70
 OCT. 15 TO APR. 15 =  4.93
 APR. 15 TO JULY 1  =  3.40
 JULY 1 TO SEPT. 1  =  1.03
 SEPT. 1 TO OCT. 15 =  1.95
 SEASON TOTAL       = 11.31
 LONG TERM AVERAGE  = 11.87
```

```
        0913   HORSE  CREEK  EXCL.  JULY   30/70  OUT    AGSP

                         NUMBER PLOTS = 20
                           PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.   WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.   GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL            BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA             20             RENCES
               CENT


  6   *ARTR    171.50 8.57              10
  6   *GUSA     68.70 3.43              16
  3    AGSM      0.10 T          .170    1      0.06    0.06   0.60   .28810
  3    AGSP     53.60 2.68       91.0   16     22.02    1.38   0.41   105.73
  3    POSE      3.00 .150       5.09    3      0.31    0.10   0.10   1.4885
   ANN FORBS     0.20 1.00E-02           2      0.02    0.01   0.10   9.6034E-02
  4    DEPI      0.20 1.00E-02 .340      2
   PER FORBS     2.00 .100               7      1.05    0.15   0.53   5.0418
  2    SPCO      0.40 2.00E-02 .679      4
  2    PEN       1.60 8.00E-02 2.72      3
  6   *PHHO      7.00 .350               9
  6   *OPPU     12.00 .600               1

    TOTAL             15.91    100.00          23.460                 112.65

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 12    HORSE  CREEK  EXCL.  JULY   30/70
OCT. 15 TO APR. 15 = 4.93
APR. 15 TO JULY 1  = 3.40
JULY 1 TO SEPT. 1  = 1.03
SEPT. 1 TO OCT. 15 = 1.95
SEASON TOTAL       =11.31
LONG TERM AVERAGE  =11.87
```

```
       0921   KANE   G.R.I. EXCL   AUGUST 18/70  INSIDE NATIVE

                          NUMBER PLOTS = 20
                            PLOT SIZE 1X1

PLANT   PLANT   TOTAL   AVE.,   PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL            BASE    SQ.FT.  OCCUR-  AREA
                PER-    AREA             20              RENCES
                CENT

 6     *ARNO   115.00 5.75                2
 3      STCO     2.00 .100      7.07      1      0.83    0.83    0.42   3.9854
 3      AGSP    14.00 .700      49.5      8      5.93    0.74    0.42   28.474
 3      POFE     3.00 .150      10.6      2      0.29    0.15    0.10   1.3925
 3      POSE     3.00 .150      10.6      3      0.31    0.10    0.10   1.4885
  ANN FORBS      4.30 .215                8     12.06    1.51    2.80   57.908
 4      DEPI     3.80 .190      13.4      7
 4      LASC     0.50 2.50E-02  1.77      1
  PER FORBS      2.00 .100                1      1.71    1.71    0.86   8.2109
 2       ERI     2.00 .100      7.07      1

    TOTAL             7.17     100.00           21.130                  101.46

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 149  KANE   G.R.I. EXCL   AUGUST 18/70
OCT. 15 TO APR. 15 =  4.86
APR. 15 TO JULY 1  =  3.95
JULY 1 TO SEPT. 1  =   .26
SEPT. 1 TO OCT. 15 =  2.92
SEASON TOTAL       = 11.99
LONG TERM AVERAGE  = 15.15
```

```
         0921    KANE    G.R.I. EXCL    AUGUST 18/70  OUTSID NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT   PLANT    TOTAL   AVE.    PERCENT   ABS.     TOTAL   AVE.    WGT./   LBS
CODE    NAME     TRANS   PER-    COMPO-    PLOT     WGT.    WGT.    UNIT    PER
                 BASAL   CENT    SITION    FREQ.    GMS/20  /PLOT   BASAL   AC.
                 AREA    BASAL             BASE     SQ.FT.  OCCUR-  AREA
                 PER-    AREA              20               RENCES
                 CENT


  3     POFE       0.50 2.50E-02 3.01        1        0.10    0.10  0.20   .48017
  3     POSE       1.50 7.50E-02 9.04        2        0.13    0.07  0.09   .62422
  3     AGSP       8.00 .400     48.2        6        4.28    0.71  0.54   20.551
  6    *PHHO       8.00 .400                 6
  6    *JUDS     187.00 9.35                 4
   PER  FORBS      6.10 .305                 6        1.42    0.24  0.23   6.8184
  2     ERPU       3.00 .150     18.1        1
  2      ERI       3.10 .155     18.7        5
   ANN  FORBS      0.50 2.50E-02             1        0.09    0.09  0.18   .43215
  4     MATA       0.50 2.50E-02 3.01        1

     TOTAL              10.58   100.00              6.0200                 28.906

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 149   KANE    G.R.I. EXCL    AUGUST 18/70
OCT. 15 TO APR. 15 =  4.86
APR. 15 TO JULY 1  =  3.95
JULY 1 TO SEPT. 1  =   .26
SEPT. 1 TO OCT. 15 =  2.92
SEASON TOTAL       = 11.99
LONG TERM AVERAGE  = 15.15
```

```
     0921   KANE   G.R.I. EXCL   AUGUST 18/70   INSIDE SPRAY

                          NUMBER PLOTS = 20
                            PLOT SIZE 1X1

PLOT  PLANT    TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./  LBS
NO    NAME     TRANS   PER-    COMPO-    PLOT    WGT.    WGT.    UNIT   PER
               BASAL   CENT    SITION    FREQ.   GMS/20  /PLOT   BASAL  AC.
               AREA    BASAL             BASE    SQ.FT.  OCCUR-  AREA
               PER     AREA              20              RENCES
               CENT


       *GUSA   22.10 1.10                  3
        STCO    1.00 5.00E-02 1.35         1       8.69    8.69   8.69  41.727
        AGSP   43.60 2.18      59.0       10      11.73    1.17   0.27  56.324
        POSE    7.50 .375      10.1        3       0.27    0.09   0.04  1.2965
    PER FORBS  14.70 .735                  9      14.00    1.56   0.95  67.224
         ERI    5.00 .250      6.77        5
        ERPU    9.50 .475      12.9        3
        ERCO    0.20 1.00E-02 .271         2
    ANN FORBS   7.10 .355                 13       8.46    0.65   1.19  40.622
        MATA    3.50 .175      4.74        4
        DEPI    0.20 1.00E-02 .271         2
        LARE    1.10 5.50E-02 1.49         2
        LASC    1.80 9.00E-02 2.44        10
        SAKA    0.50 2.50E-02 .677         1

     TOTAL           3.70     100.00             43.150                 207.19

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


     PRECIPITATION DATA

     WEATHER STN NO. 149   KANE   G.R.I. EXCL   AUGUST 18/70
     OCT. 15 TO APR. 15  =  4.86
     APR. 15 TO JULY 1   =  3.95
     JULY 1 TO SEPT. 1   =   .26
     SEPT. 1 TO OCT. 15  =  2.92
     YEAR TOTAL          = 11.99
     LONG TERM AVERAG    = 15.15
```

```
        0921   KANE   G.R.I. EXCL   AUGUST 18/70  OUTSID SPRAY

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PL   T   PLANT   TOTAL  AVE.     PERCENT   ABS.    TOTAL   AVE.     WGT./   LBS
         NAME    TRANS  PER-     COMPO-    PLOT    WGT.    WGT.     UNIT    PER
                 BASAL  CENT     SITION    FREQ.   GMS/20  /PLOT    BASAL   AC.
                 AREA   BASAL              BASE    SQ.FT.  OCCUR-   AREA
                 PER-   AREA               20              RENCES
                 CENT


         POSE      3.50 .175        4.80        3       0.52    0.17    0.15   2.4969
         PUFE      0.50 2.50E-02  .686          1       0.21    0.21    0.42   1.0084
         AGSP      9.60 .480        13.2        8       1.85    0.23    0.19   8.8831
     ANN FORBS    28.60 1.43                   17       7.90    0.46    0.28   37.933
  4      MATA     24.00 1.20        32.9        8
         LARE      0.80 4.00E-02  1.10          4
  4      LASC      3.70 .185        5.08       12
         DEPI      0.10 T          .137         1
     PER FORBS    30.70 1.53                   15      18.04    1.20    0.59   86.623
         ERPU     25.00 1.25        34.3        7
         ERCO      1.60 8.00E-02  2.19          7
          ERI      4.10 .205        5.62        5
        *PHHO      0.50 2.50E-02                1
        *GUSA      2.00 .100                    1

       TOTAL            3.77      100.00               28.520                  136.94

         * NOT COMPUTED IN PERCENT COMPOSITION
         T - TRACE


PRECIPITATION DATA

   RAIN GUAGE NO. 149   KANE    G.R.I. EXCL   AUGUST 18/70
OCT. 15 TO APR. 15  = 4.86
APR. 15 TO JULY 1   = 3.95
JULY 1 TO SEPT. 1   =  .26
SEPT. 1 TO OCT. 15  = 2.92
SEASON TOTAL        =11.99
LONG TERM AVERAGE   =15.15
```

```
         1502   KIRBY  CREEK  EXCL   JULY   27/70  INSIDE NATIVE

                          NUMBER PLOTS = 20
                            PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
               BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
               AREA   BASAL            BASE    SQ.FT.  OCCUR-  AREA
               PER-   AREA             20              RENCES
               CENT


  3    AGSM     27.50 1.38        53.7     10    31.03    3.10   1.13  149.00
  3    POSE      6.20 .310        12.1      7     2.48    0.35   0.40  11.908
   ANN GRASS     0.50 2.50E-02              5     0.90    0.18   1.80  4.3215
  5    BRTE      0.50 2.50E-02  .977        5
   ANN FORBS    17.00 .850                 19    34.78    1.83   2.05  167.00
  4    LEPE     15.60 .780        30.5     19
  4    LARE      0.30 1.50E-02  .586        3
  4    CHAL      1.10 5.50E-02  2.15        2
  6   *OPPO      1.00 5.00E-02              1
  6   *SAVE    120.00 6.00                  2

    TOTAL             8.61     100.00           69.190                 332.23

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO.  77   KIRBY   CREEK  EXCL   JULY   27/70
OCT. 15 TO APR. 15 =  3.25
APR. 15 TO JULY 1  =  3.46
JULY 1 TO SEPT. 1  =   .60
SEPT. 1 TO OCT. 15 =   .56
SEASON TOTAL       =  7.87
LONG TERM AVERAGE  =  8.72
```

```
          1502   KIRBY  CREEK  EXCL   JULY   27/70  OUTSID NATIVE

                            NUMBER PLOTS = 20
                              PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
               BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
               AREA   BASAL            BASE    SQ.FT.  OCCUR-  AREA
               PER-   AREA             20              RENCES
               CENT


  3    SPAI    10.10 .505       21.9      6     22.44    3.74   2.22   107.75
  3    AGSM    19.20 .960       41.6     12     21.08    1.76   1.10   101.22
  3    POSE     1.10 5.50E-02 2.39        3      0.16    0.05   0.15   .76827
   ANN GRASS    1.50 7.50E-02             7      0.85    0.12   0.57   4.0814
  5    BRTE     1.50 7.50E-02 3.25        7
   ANN FORBS   14.10 .705                19     17.02    0.90   1.21   81.725
  4    LARE     0.40 2.00E-02 .868        4
  4    LEPE    12.70 .635       27.5     18
  4    CHAL     0.80 4.00E-02 1.74        8
  4    LEDE     0.20 1.00E-02 .434        2
   PER FORBS    0.10 5.00E-03             1      0.15    0.15   1.50   .72025
  2    SPCO     0.10 T          .217      1
  6   *SAVE     6.00 .300                 1
  6   *OPPU    15.00 .750                 1

    TOTAL             3.36    100.00           61.700                  296.26

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 77    KIRBY  CREEK  EXCL   JULY   27/70
OCT. 15 TO APR. 15 = 3.25
APR. 15 TO JULY 1  = 3.46
JULY 1 TO SEPT. 1  =  .60
SEPT. 1 TO OCT. 15 =  .56
SEASON TOTAL       = 7.87
LONG TERM AVERAGE  = 8.72
```

```
        1001   LANDER ANT    EXCL.  AUGUST 24/70  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT   PLANT    TOTAL   AVE.     PERCENT   ABS.    TOTAL   AVE.     WGT./   LBS
CODE    NAME     TRANS   PER-     COMPO-    PLOT    WGT.    WGT.     UNIT    PER
                 BASAL   CENT     SITION    FREQ.   GMS/20  /PLOT    BASAL   AC.
                 AREA    BASAL              BASE    SQ.FT.  OCCUR-   AREA
                 PER-    AREA               20              RENCES
                 CENT


 6    *ARTR    227.00 11.3                  10
 3     AGSM      8.40 .420        16.0      18        9.41    0.52    1.12   45.184
 3     POSE     17.00 .850        32.4      10        3.45    0.35    0.20   16.566
 3     STCO     20.50 1.02        39.0       4       12.33    3.08    0.60   59.205
 3     ORHY      0.10 T           .190       1        0.59    0.59    5.90   2.8330
 3     CAEL      0.70 3.50E-02  1.33         3        0.44    0.15    0.63   2.1127
 3     BUGR      3.00 .150        5.71       1        0.14    0.14    0.05   .67224
  ANN  FORBS     0.70 3.50E-02               6        0.07    0.01    0.10   .33612
 4     PLPA      0.50 2.50E-02  .952         5
 4     LEDE      0.20 1.00E-02  .381         2
  PER  FORBS     2.10 .105                   7        1.21    0.17    0.58   5.8100
 2     SPCU      1.00 5.00E-02  1.90         6
 2     ERPU      1.00 5.00E-02  1.90         1
 2     ALTE      0.10 T         .190         1
 6    *OPPU      9.50 .475                   3
 6    *PHHU      4.00 .200                   1

    TOTAL            14.65     100.00             27.640                   132.72

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 5     LANDER ANT     EXCL.  AUGUST 24/70
OCT. 15 TO APR. 15   = 3.34
APR. 15 TO JULY 1    = 3.12
JULY 1 TO SEPT. 1    =  .30*
SEPT. 1 TO OCT. 15   =  .78
SEASON TOTAL         = 7.54
LONG TERM AVERAGE    = 8.44
    *estimated
```

1001 LANDER ANT EXCL. AUGUST 24/70 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	194.60	9.73		12				
3	AGSM	13.10	.655	22.6	17	12.78	0.75	0.98	61.366
3	STCU	15.10	.755	26.0	8	9.57	1.20	0.63	45.952
3	POSE	23.00	1.15	39.7	12	3.31	0.28	0.14	15.894
3	ORHY	2.50	.125	4.31	2	1.24	0.62	0.50	5.9541
3	BOGR	2.00	.100	3.45	1	0.10	0.10	0.05	.48017
ANN	FORBS	1.20	6.00E-02		6	0.22	0.04	0.18	1.0564
4	PLPA	1.00	5.00E-02	1.72	6				
4	DEPI	0.20	1.00E-02	.345	2				
PER	FORBS	1.10	5.50E-02		7	0.41	0.06	0.37	1.9687
2	SPCU	1.00	5.00E-02	1.72	6				
2	ALTE	0.10	T	.172	1				
6	*OPPO	8.00	.400		2				
6	*PHHO	5.00	.250		1				
	TOTAL		13.28	100.00		27.630			132.67

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 5 LANDER ANT EXCL. AUGUST 24/70
OCT. 15 TO APR. 15 = 3.34
APR. 15 TO JULY 1 = 3.12
JULY 1 TO SEPT. 1 = .30*
SEPT. 1 TO OCT. 15 = .78
SEASON TOTAL = 7.54
LONG TERM AVERAG = 8.44
*estimated

1003 LOWER GOVT DRAW AUGUST 26/70 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	283.00	14.1		13				
3	AGSM	29.10	1.45	26.9	20	25.79	1.29	0.89	123.84
3	PUSE	38.00	1.90	35.2	13	5.34	0.41	0.14	25.641
3	STCU	35.50	1.77	32.8	6	18.08	3.01	0.51	86.815
ANN	GRASS	2.70	.135		6	1.41	0.24	0.52	6.7704
5	BRTE	2.70	.135	2.50	6				
ANN	FORBS	0.90	4.50E-02		8	0.21	0.03	0.23	1.0084
4	CHAL	0.10	T	9.25E-02	1				
4	CORA	0.10	T	9.25E-02	1				
4	DEPI	0.70	3.50E-02	.648	7				
PER	FORBS	1.90	9.50E-02		6	5.25	0.88	2.76	25.209
2	AST	0.50	2.50E-02	.463	1				
2	ASDR	1.00	5.00E-02	.925	1				
2	SPCU	0.40	2.00E-02	.370	4				
	TOTAL		14.56	100.00		56.080			269.28

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 16 LOWER GOVT DRAW AUGUST 26/70
OCT. 15 TO APR. 15 = 5.44
APR. 15 TO JULY 1 = 4.48
JULY 1 TO SEPT. 1 = .73
SEPT. 1 TO OCT. 15 = 1.03
SEASON TOTAL = 11.68
LONG TERM AVERAGE = 10.36

```
            1003    LOWER   GOVT    DRAW    AUGUST 26/70   OUT      NATIVE

                                  NUMBER PLOTS = 20
                                    PLOT SIZE 1X1

PLANT   PLANT    TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME     TRANS   PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                 BASAL   CENT    SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
                 AREA    BASAL             BASE    SQ.FT.  OCCUR-  AREA
                 PER-    AREA              20              RENCES
                 CENT


 6    *ARTR    463.50 23.2                 10
 3     AGSM      6.50 .325       8.67      14       7.98    0.57    1.23   38.318
 3     POSE  -  29.00 1.45      38.7       13       4.63    0.36    0.16   22.232
 3     STCO     21.50 1.07      28.7        8      11.12    1.39    0.52   53.395
 3     ORHY      1.00 5.00E-02  1.33        1       2.18    2.18    2.18   10.468
  ANN  GRASS     5.50 .275                 12       2.29    0.19    0.42   10.996
 5     BRTE      5.50 .275       7.33      12
  ANN  FORBS     7.80 .390                 16       1.56    0.10    0.20   7.4906
 4     PLPA      0.20 1.00E-02  .267        2
 4     MIGR      7.60 .380      10.1       16
  PER  FORBS     3.70 .185                  7       2.37    0.34    0.64   11.380
 2     SPCO      1.70 8.50E-02  2.27        5
 2     ERPU      1.00 5.00E-02  1.33        1
 2     ASOR      1.00 5.00E-02  1.33        1
 6    *OPPO      5.00 .250                  1

    TOTAL             27.18     100.00            32.130                   154.28

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 16    LOWER   GOVT    DRAW    AUGUST 26/70
OCT. 15 TO APR. 15  =  5.44
APR. 15 TO JULY 1   =  4.48
JULY 1 TO SEPT. 1   =   .73
SEPT. 1 TO OCT. 15  =  1.03
SEASON TOTAL        = 11.68
LONG TERM AVERAGE   = 10.36
```

```
          1003   LOWER  GOVT   DRAW   AUGUST 26/70  INSIDE SPRAY

                              NUMBER PLOTS = 20
                               PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.   WGT.   UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
               AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
               PER-   AREA            20            RENCES
               CENT


 3     AGSM     6.40 .320     6.46     18     13.33   0.74  2.08  64.007
 3     POSE     4.60 .230     4.65      7      1.83   0.26  0.40  8.7871
 3     STCO    46.50 2.32     47.0     14     52.17   3.73  1.12  250.50
 3     ROCR    10.30 .515     10.4      2      6.19   3.10  0.60  29.722

  ANN GRASS    30.70 1.53              20     10.58   0.53  0.34  50.802
 5     BRTE    30.70 1.53     31.0     20
  ANN FORBS     0.10 5.00E-03           1      0.01   0.01  0.10  4.8017E-02
 4     CHAL     0.10 T        .101      1
  PER FORBS     0.40 2.00E-02           4      0.82   0.21  2.05  3.9374
 2     SPCO     0.40 2.00E-02 .404      4

    TOTAL           4.95    100.00           84.930               407.81

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 16    LOWER  GOVT   DRAW   AUGUST 26/70
OCT. 15 TO APR. 15 =  5.44
APR. 15 TO JULY 1  =  4.48
JULY 1 TO SEPT. 1  =   .73
SEPT. 1 TO OCT. 15 =  1.03
SEASON TOTAL       = 11.68
LONG TERM AVERAGE  = 10.36
```

```
         1003   LOWER  GOVT   DRAW   AUGUST 26/70  OUT    SPRAY

                             NUMBER PLOTS = 20
                               PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.   TOTAL   AVE.     WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT   WGT.    WGT.     UNIT   PER
               BASAL  CENT    SITION   FREQ.  GMS/20  /PLOT    BASAL  AC.
               AREA   BASAL            BASE   SQ.FT.  OCCUR-   AREA
               PER-   AREA             20             RENCES
               CENT


 6   *ARTR    12.50 .625                  4
 3    AGSM    18.50 .925         20.3    19    11.42    0.60  0.62  54.835
 3    POSE    50.10 2.50         54.9    20     5.45    0.27  0.11  26.169
 3    STCO    15.50 .775         17.0     9     4.98    0.55  0.32  23.912
  ANN GRASS    5.60 .280                 11     1.60    0.16  0.32  8.6430

 5    BRTE     5.60 .280          6.13   11
  ANN FORBS    0.20 1.00E-02              2     0.07    0.04  0.35  .33612
 4    CHAL     0.10 T             .110    1
 4    LARL     0.10 T             .110    1
  PER FORBS    1.40 7.00E-02              5     0.80    0.16  0.57  3.8414
 2    SPCO     1.40 7.00E-02 1.53         5
 6   *OPPO     0.50 2.50E-02              1

    TOTAL            5.22    100.00           24.520                 117.74

     * NOT COMPUTED IN PERCENT COMPOSITION
     T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 16    LOWER  GOVT   DRAW   AUGUST 26/70
OCT. 15 TO APR. 15  =  5.44
APR. 15 TO JULY 1   =  4.48
JULY 1 TO SEPT. 1   =   .73
SEPT. 1 TO OCT. 15  =  1.03
SEASON TOTAL        = 11.68
LONG TERM AVERAGE   = 10.36
```

```
          1004   MCGRAW FLATS   EXCL   AUGUST 25/70   INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT  PLANT   TOTAL   AVE.    PERCENT   ABS.    TOTAL  AVE.    WGT./   LBS
CODE   NAME    TRANS   PER-    COMPO-    PLOT    WGT.   WGT.    UNIT    PER
               BASAL   CENT    SITION    FREQ.   GMS/20 /PLOT   BASAL   AC.
               AREA    BASAL             BASE    SQ.FT. OCCUR-  AREA
               PER-    AREA              20             RENCES
               CENT


 6   *ARTR    463.00 23.1                15
 6   *CHVI     19.00 .950                 2
 3    AGSM     14.90 .745       9.06     20     13.89    0.69   0.93   66.696
 3    POSE     10.00 .500       6.08      4      0.86    0.22   0.09   4.1295
 3    POFE    135.00 6.75       82.1     13     14.77    1.14   0.11   70.921
  ANN FORBS     0.20 1.00E-02             2      1.06    0.53   5.30   5.0898
 4    CORA      0.20 1.00E-02 .122        2
  PER FORBS     4.40 .220                13      3.89    0.30   0.88   18.679
 2    UMB       0.10 T        6.08E-02    1
 2    ERPU      0.70 3.50E-02 .426        3
 2    VIAM      1.90 9.50E-02 1.16        7
 2    ALTE      0.10 T        6.08E-02    1
 2    SPCO      1.60 8.00E-02 .973        4
 6   *PHHO      5.50 .275                 5

    TOTAL            32.60    100.00           34.470                  165.51

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 14    MCGRAW FLATS   EXCL    AUGUST 25/70
OCT. 15 TO APR. 15 = 5.00
APR. 15 TO JULY 1  = 4.04
JULY 1 TO SEPT. 1  =  .96
SEPT. 1 TO OCT. 15 =  .43
SEASON TOTAL       =10.43
LONG TERM AVERAGE  =  9.42
```

```
          1004   MCGRAW FLATS   EXCL   AUGUST 25/70  OUT     NATIVE

                             NUMBER PLOTS = 20
                               PLOT SIZE 1X1

PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.     TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-    PLOT     WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION    FREQ.    GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL             BASE     SQ.FT.  OCCUR-  AREA
                PER-    AREA              20               RENCES
                CENT


  6    *ARTR    248.00 12.4                  13
  6    *CHVI     27.00 1.35                   3
  3     AGSM      7.20 .360        4.42      18      10.04    0.56   1.39   48.209
  3     POSE     12.50 .625        7.67       7       1.37    0.20   0.11   6.5783
  3     POFE    132.00 6.60        81.0      19      12.97    0.68   0.10   62.278
  3     AGSP      1.00 5.00E-02 .614          1       1.07    1.07   1.07   5.1378
   ANN FORBS      5.70 .285                  14      13.24    0.95   2.32   63.574
  4     CORA      5.70 .285        3.50      14
   PER FORBS      4.50 .225                  13       4.95    0.38   1.10   23.768
  2     ERPU      1.00 5.00E-02 .614          1
  2     VIAM      2.00 .100        1.23       8
  2     SPCO      0.80 4.00E-02 .491          4
  2     ALTE      0.10 T         6.14E-02     1
  2     ASPU      0.50 2.50E-02 .307          1
  2     TRI       0.10 T         6.14E-02     1
  6    *PHHO     94.50 4.72                  10

     TOTAL             26.62    100.00             43.640                 209.55

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 14    MCGRAW FLATS   EXCL    AUGUST 25/70
OCT. 15 TO APR. 15  =  5.00
APR. 15 TO JULY 1   =  4.04
JULY 1 TO SEPT. 1   =   .96
SEPT. 1 TO OCT. 15  =   .43
SEASON TOTAL        = 10.43
LONG TERM AVERAGE   =  9.42
```

```
     0920   MEDICI LODGE  G.R.I. AUGUST 18/70  INSIDE SPRAY

                          NUMBER PLOTS = 20
                           PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
               BASAL  CENT    SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
               AREA   BASAL             BASE    SQ.FT.  OCCUR-  AREA
               PER-   AREA              20              RENCES
               CENT


 6     *ARTR   156.00 7.80                 5
 3      POSE     0.60 3.00E-02 .547        2      0.17    0.09   0.28   .81629
 3      FEID     2.00 .100      1.82       3      1.40    0.47   0.70   6.7224
 3      AGSP    13.50 .675      12.3       8     14.05    1.76   1.04   67.464
 3      POFL    18.00 .900      16.4      12      6.19    0.52   0.34   29.722
 3      KOCR    11.00 .550      10.0       6      7.50    1.25   0.68   36.013
 3      STCU    29.00 1.45      26.4      11     16.14    1.47   0.56   77.499
   ANN  GRASS   24.30 1.21                17      4.19    0.25   0.17   20.119
 3      BRTE     0.10 T         9.12E-02   1
 3      FEOC    24.20 1.21      22.1      17
   ANN  FORBS    9.80 .490                19      7.94    0.42   0.81   38.125
 4      GYPA     3.90 .195      3.56      10
 4      PUAV     1.50 7.50E-02 1.37       11
 4      DEPI     0.10 T         9.12E-02   1
 4      LEDE     4.30 .215      3.92       8
   PER  FORBS    1.50 7.50E-02             5      2.31    0.46   1.54   11.092
        ALTE     0.20 1.00E-02 .182        2
        LERE     0.10 T         9.12E-02   1
        CRBR     1.20 6.00E-02 1.09        3

    TOTAL             13.29    100.00            59.890                 287.57

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

   RAIN GUAGE NO. 148    MEDICI LODGE  G.R.I. AUGUST 18/70
OCT. 15 TO APR. 15 =  6.80
APR. 15 TO JULY 1  =  2.75
JULY 1 TO SEPT. 1  =   .57
SEPT. 1 TO OCT. 15 =  1.67
SEASON TOTAL       = 11.79
LONG TERM AVERAGE  = 14.61
```

```
        0920   MEDICI LODGE  G.R.I. AUGUST 18/70  OUTSID NATIVE

                            NUMBER PLOTS = 20
                             PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.   GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL            BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA             20             RENCES
               CENT


      *ARTR    35.50 1.77                 3
      *GUSA     0.50 2.50E-02             1
      *JUOS   120.00 6.00                 2
       FETD     3.50 .175      7.51       3      0.96    0.32   0.27   4.6096
       KOCR     1.00 5.00E-02 2.15        1      0.04    0.04   0.04   .19207
       AGSP     2.50 .125      5.36       4      1.20    0.30   0.48   5.7620
       POSE     8.60 .430      18.5      14      0.97    0.07   0.11   4.6576
       STCO     6.00 .300      12.9       5      1.89    0.38   0.32   9.0752
   ANN GRASS    3.10 .155                 5      0.35    0.07   0.11   1.6806
       FEOC     3.00 .150      6.44       4
       BRTF     0.10 T         .215       1
   ANN FORBS   13.80 .690                19      3.29    0.17   0.24   15.798
       GYPA     7.10 .355      15.2      14
       POAV     1.40 7.00E-02 3.00        6
       PLPA     0.20 1.00E-02 .429        2
       DEPI     0.20 1.00E-02 .429        2
       LEDE     4.90 .245      10.5      11
   PER FORBS    8.10 .405                 4      2.28    0.57   0.28   10.948
       LERL     8.10 .405      17.4       4

    TOTAL          10.13      100.00            10.980                52.723

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

   RAIN GUAGE NO. 148   MEDICI LODGE  G.R.I. AUGUST 18/70
OCT. 15 TO APR. 15 =  6.80
APR. 15 TO JULY 1  =  2.75
JULY 1 TO SEPT. 1  =   .57
SEPT. 1 TO OCT. 15 =  1.67
   SUM TOTAL       = 11.79
LONG TERM AVERAG   = 14.61
```

1503 NORTH BUTTE JULY 29/70 NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	153.00	7.65		4				
3	AGSP	76.00	3.80	57.0	15	48.62	3.24	0.64	233.46
3	CAFI	30.50	1.52	22.9	10	7.21	0.72	0.24	34.620
3	STCO	22.50	1.13	16.9	8	17.85	2.23	0.79	85.710
3	POSE	3.50	.175	2.62	6	0.58	0.10	0.17	2.7850
	ANN FORBS	0.10	5.00E-03		1	0.21	0.21	2.10	1.0084
4	DEPI	0.10	T	7.50E-02	1				
	PER FORBS	0.80	4.00E-02		7	0.82	0.12	1.03	3.9374
2	SPCO	0.50	2.50E-02	.375	5				
2	ALTE	0.20	1.00E-02	.150	2				
2	CRAC	0.10	T	7.50E-02	1				
6	*PHHO	4.10	.205		2				
	TOTAL		14.53	100.00		75.290			361.52

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA
U.S. Weather Bureau - Thermopolis
RAIN GUAGE NO. NORTH BUTTE JULY 29/70
OCT. 15 TO APR. 15 = 3.64
APR. 15 TO JULY 1 = 3.95
JULY 1 TO SEPT. 1 = .42
SEPT. 1 TO OCT. 15 = .76
SEASON TOTAL = 8.11
LONG TERM AVERAGE = 11.01

1504 ROUND TOP JULY 29/70 NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	17.00	.850		5				
6	*CHNA	0.10	T		1				
3	AGSP	163.00	8.15	65.3	14	64.34	4.60	0.39	308.94
3	STCO	33.00	1.65	13.2	7	12.51	1.79	0.38	60.069
3	CAFI	44.00	2.20	17.6	11	8.70	0.79	0.20	41.775
3	POSE	4.00	.200	1.60	6	0.40	0.07	0.10	1.9207
ANN	FORBS	4.20	.210		3	6.73	2.24	1.60	32.315
4	DEPI	0.20	1.00E-02	8.01E-02	2				
4	LIRU	4.00	.200	1.60	1				
PER	FORBS	1.40	7.00E-02		5	5.86	1.17	4.19	28.138
2	ALTE	0.30	1.50E-02	.120	3				
2	ZYVE	0.60	3.00E-02	.240	2				
2	UMB	0.50	2.50E-02	.200	1				
6	*ARHU	10.00	.500		1				
	TOTAL		13.84	100.00		98.540			473.16

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA
U.S. Weather Bureau-Thermopolis
RAIN GUAGE NO. ROUND TOP JULY 29/70
OCT. 15 TO APR. 15 = 3.64
APR. 15 TO JULY 1 = 3.95
JULY 1 TO SEPT. 1 = .42
SEPT. 1 TO OCT. 15 = .76
SEASON TOTAL = 8.11
LONG TERM AVERAGE =11.01

```
           1505   SAND   GULCH  EXCL   JULY   16/70  INSIDE NATIVE

                            NUMBER OF PLOTS
                   COVER = 200, PRODUCTION = 20
                        PLOT SIZE 1 FT. X 10 FT.

  PLANT  PLANT    TOTAL  AVE.    PERCENT   ABS.   TOTAL   AVE.    WGT./  LBS
  CODE   NAME     TRANS  PER-    COMPO-    PLOT   WGT.    WGT.    UNIT   PER
                  BASAL  CENT    SITION    FREQ.  GMS/    /PLOT   BASAL  AC.
                  AREA   BASAL             BASE   200     OCCUR-  AREA
                  PER-   AREA              200    SQ.FT.  RENCES
                  CENT


   1   ATNU    1685.0  8.42       80.3       73   309.96   4.25  0.18  148.83
   6  *OPPO     138.5  .692                  20
   3   AGSM     239.9  1.20       11.4      158   407.35   2.58  1.70  195.60
   3   BOGR      95.0  .475       4.53        4     8.10   2.03  0.09  3.8894
   3   POSE      22.6  .113       1.08       19     5.12   0.27  0.23  2.4585
   3   ORHY       0.2  T          T           2     0.69   0.35  3.45  .33132
   3   SIHY      23.1  .115       1.10       10    15.90   1.59  0.69  7.6347
    ANN GRASS    31.1  .155                  54    33.88   0.63  1.09  16.268
   5   MUSO       0.5  T          2.38E-02    1
   5   BRTE      30.6  .153       1.46       53
    ANN FORBS     1.1  5.50E-03               6     4.34   0.72  3.95  2.0839
   4   CHAL       0.1  T          T           1
   4   LARE       0.2  T          T           2
   4   DEPI       0.8  T          3.81E-02    4
    PER FORBS     0.5  2.50E-03               1     0.41   0.41  0.82  .19687
   2   SPCO       0.5  T          2.38E-02    1

     TOTAL             11.2     100.00            785.75                377.293

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


  PRECIPITATION DATA

   RAIN GUAGE NO. 75    SAND    GULCH  EXCL    JULY    16/70
  OCT. 15 TO APR. 15  =  2.73
  APR. 15 TO JULY 1   =  3.66
  JULY 1 TO SEPT. 1   =   .62
  SEPT. 1 TO OCT. 15  =   .47
  SEASON TOTAL        =  7.48
  LONG TERM AVERAGE   =  9.02
```

```
                    1505   SAND   GULCH   EXCL   JULY   16/70   OUTSID NATIVE

                                 NUMBER OF PLOTS
                          COVER = 200, PRODUCTION = 20
                               PLOT SIZE 1 FT. X 10 FT.

   PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
   CODE    NAME    TRANS   PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                   BASAL   CENT    SITION    FREQ.   GMS/    /PLOT   BASAL   AC.
                   AREA    BASAL             BASE    200     OCCUR-  AREA
                   PER-    AREA              200     SQ.FT.  RENCES
                   CENT


     1   ATNU    2036.2  10.2       61.0       85   665.01    7.82   0.33  319.32
     6  *OPPO     131.0  .655                  12
     3   AGSM      23.7  .118       .710       21    37.69    1.79   1.59  18.098
     3   SIHY      61.2  .306       1.83       13    30.77    2.37   0.50  14.775
     3   BOGR    1111.6  5.56       33.3       80   168.71    2.11   0.15  81.009
     3   POSE      20.6  .103       .617       15     4.69    0.31   0.23  2.2520
      ANN GRASS    65.3  .326                  69    40.64    0.59   0.62  19.514
     5   BRTE      17.0  8.50E-02 .509         27
     5   MUSO      43.3  .241       1.45       51
      ANN FORBS    21.1  .105                  66   273.59    4.15  12.97  131.37
     4   DEPI       0.2  T          T           2
     4   LEDE       2.2  1.10E-02 6.59E-02      9
     4   LARE       2.6  1.30E-02 7.79E-02     18
     4   CHAL      15.1  7.55E-02 .452         45
     4   SAKA       1.0  T        2.99E-02      2

       TOTAL             17.4      100.00           1221.1                 586.335

         * NOT COMPUTED IN PERCENT COMPOSITION
         T - TRACE


   PRECIPITATION DATA

    RAIN GUAGE NO. 75      SAND    GULCH   EXCL    JULY   16/70
   OCT. 15 TO APR. 15  = 2.73
   APR. 15 TO JULY 1   = 3.66
   JULY 1 TO SEPT. 1   =  .62
   SEPT. 1 TO OCT. 15  =  .47
   SEASON TOTAL        = 7.48
   LONG TERM AVERAGE   = 9.02
```

```
        1009   SHOSHO ANT NO EXCL 2 AUGUST 26/70  INSIDE NATIVE

                          NUMBER PLOTS = 20
                            PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.    WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20  /PLOT   BASAL  AC.
               AREA   BASAL           BASE   SQ.FT.  OCCUR-  AREA
               PER-   AREA            20             RENCES
               CENT


  6    *ARTR  164.00 8.20              6
  3     AGSM    2.10 .105      .718    4      3.11    0.78   1.48  14.933
  3     BOGR  288.00 14.4      98.5   13     12.07    0.93   0.04  57.956
  3     STCO    2.00 .100      .684    1      1.42    1.42   0.71  6.8184
  PER FORBS     0.40 2.00E-02          4      0.55    0.14   1.38  2.6409
  2     SPCO    0.40 2.00E-02 .137     4
  6    *OPPO   34.00 1.70              6

    TOTAL            24.53    100.00         17.150                  82.349


     * NOT COMPUTED IN PERCENT COMPOSITION
     T - TRACE


PRECIPITATION DATA
  FULLER SEED PLOT
 RAIN GUAGE NO. 48   SHOSHO ANT NO EXCL 2 AUGUST 26/70
OCT. 15 TO APR. 15 =  2.40
APR. 15 TO JULY 1  =  2.50
JULY 1 TO SEPT. 1  =   .23
SEPT. 1 TO OCT. 15 =  1.60
SEASON TOTAL       =  6.73
LONG TERM AVERAGE  =  8.37
```

1009 SHOSHO ANT SO EXCL 2 AUGUST 26/70 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	106.00	5.30		6				
3	AGSM	4.80	.240	1.55	10	6.62	0.66	1.38	31.787
3	BOGR	294.00	14.7	94.8	11	13.03	1.18	0.04	62.566
3	POSE	3.50	.175	1.13	5	1.53	0.31	0.44	7.3466
3	STCO	7.00	.350	2.26	2	5.89	2.95	0.84	28.282
3	ORHY	0.50	2.50E-02	.161	1	0.52	0.52	1.04	2.4969
PER	FORBS	0.20	1.00E-02		2	0.17	0.09	0.85	.81629
2	SPCO	0.20	1.00E-02	6.45E-02	2				
6	*PHHO	0.50	2.50E-02		1				
6	*OPPO	31.00	1.55		4				
	TOTAL		22.38	100.00		27.760			133.29

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA
FULLER SEED PLOT
RAIN GUAGE NO. 48 SHOSHO ANT SO EXCL 2 AUGUST 26/70
OCT. 15 TO APR. 15 = 2.40
APR. 15 TO JULY 1 = 2.50
JULY 1 TO SEPT. 1 = .23
SEPT. 1 TO OCT. 15 = 1.60
SEASON TOTAL = 6.73
LONG TERM AVERAGE = 8.37

```
          1009   SHOSHO ANT    EXCL 2 AUGUST 26/70  OUT    NATIVE

                            NUMBER PLOTS = 20
                             PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.   PERCENT   ABS.   TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-    PLOT   WGT.   WGT.    UNIT   PER
               BASAL  CENT   SITION    FREQ.  GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL            BASE   SQ.FT. OCCUR-  AREA
               PER-   AREA             20            RENCES
               CENT


  6   *ARTR   170.00 8.50                 7
  3    AGSM     6.90 .345      2.86      13      9.07    0.70   1.31   43.551
  3    BOGR   228.00 11.4      94.6      11     12.35    1.12   0.05   59.301
  3    POSE     3.10 .155      1.29       6      0.76    0.13   0.25   3.6493
  3    STCO     2.50 .125      1.04       2      1.16    0.58   0.46   5.5700
   PER FORBS    0.60 3.00E-02             2      0.14    0.07   0.23   .67224
  2    ALTE     0.10 T        4.15E-02    1
  2    ERPU     0.50 2.50E-02 .207        1
  6   *PHHO     1.00 5.00E-02             1
  6   *OPPO    15.00 .750                 4

    TOTAL           21.36    100.00             23.480                 112.74

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA
   FULLER SEED PLOT
 RAIN GUAGE NO. 48    SHOSHO ANT     EXCL 2 AUGUST 26/70
OCT. 15 TO APR. 15 = 2.40
APR. 15 TO JULY 1  = 2.50
JULY 1 TO SEPT. 1  =  .23
SEPT. 1 TO OCT. 15 = 1.60
SEASON TOTAL       = 6.73
LONG TERM AVERAGE  = 8.37
```

```
          1011   SHOSHO ANT NO EXCL 4 AUGUST 27/70  INSIDE NATIVE

                                 NUMBER PLOTS = 20
                                   PLOT SIZE 1X1

PLANT   PLANT   TOTAL  AVE.   PERCENT   ABS.    TOTAL  AVE.    WGT./  LBS
CODE    NAME    TRANS  PER-   COMPO-    PLOT    WGT.   WGT.    UNIT   PER
                BASAL  CENT   SITION    FREQ.   GMS/20 /PLOT   BASAL  AC.
                AREA   BASAL            BASE    SQ.FT. OCCUR-  AREA
                PER-   AREA             20             RENCES
                CENT


  6    *ARTR    11.50 .575                  3
  3     AGSM     3.00 .150        1.22      9     4.28   0.48   1.43  20.551
  3     BOGR   229.50 11.5        93.6     12     8.55   0.71   0.04  41.054
  3     POSE     1.50 7.50E-02 .611         2     0.60   0.30   0.40  2.8810
  3     STCO     9.00 .450        3.67      2     6.92   3.46   0.77  33.228
  3     ORHY     1.00 5.00E-02 .408         1     1.07   1.07   1.07  5.1378
  6    *PHHO     3.00 .150                  1
   PER FORBS     1.30 6.50E-02              5     0.56   0.11   0.43  2.6889
  2     SPCO     1.30 6.50E-02 .530         5
  6    *OPPO    32.00 1.60                  5

     TOTAL            14.59   100.00           21.980                105.54

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA
   FULLER SEED PLOT
 RAIN GUAGE NO. 48     SHUSHO ANT NO EXCL 4 AUGUST 27/70
OCT. 15 TO APR. 15  = 2.40
APR. 15 TO JULY 1   = 2.50
JULY 1 TO SEPT. 1   =  .23
SEPT. 1 TO OCT. 15  = 1.60
SEASON TOTAL        = 6.73
LONG TERM AVERAGE   = 8.37
```

1011 SHOSHU ANT SO EXCL 4 AUGUST 27/70 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	43.00	2.15		6				
3	AGSM	16.50	.825	7.08	8	2.88	0.36	0.17	13.829
3	BOGR	205.00	10.3	87.9	11	8.87	0.81	0.04	42.591
3	POSE	3.00	.150	1.29	4	1.40	0.35	0.47	6.7224
3	STCO	8.00	.400	3.43	5	3.91	0.78	0.49	18.775
PER	FORBS	0.60	3.00E-02		6	0.78	0.13	1.30	3.7453
2	SPCO	0.60	3.00E-02	.257	6				
6	*OPPU	32.00	1.60		4				
	TOTAL		15.41	100.00		17.840			85.662

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA
FULLER SEED PLOT
RAIN GUAGE NO. 48 SHOSHO ANT SO EXCL 4 AUGUST 27/70
OCT. 15 TO APR. 15 = 2.40
APR. 15 TO JULY 1 = 2.50
JULY 1 TO SEPT. 1 = .23
SEPT. 1 TO OCT. 15 = 1.60
SEASON TOTAL = 6.73
LONG TERM AVERAGE = 8.37

```
           1011   SHOSHO ANT    EXCL 4 AUGUST 27/70  OUT    NATIVE

                         NUMBER PLOTS = 20
                           PLOT SIZE 1X1

PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.   WGT.   UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
              AREA   BASAL           BASE   SQ.FT. OCCUR- AREA
              PER-   AREA            20            RENCES
              CENT


  6   *ARTR    15.00 .750               2
  3    BOGR   266.10 13.3     95.5     16    17.52   1.10  0.07  84.126
  3    POSE     2.10 .105     .754      4     0.85   0.21  0.40  4.0814
  3    ORHY     3.00 .150     1.08      1     3.96   3.96  1.32  19.015
  3    STCO     6.00 .300     2.15      2     2.68   1.34  0.45  12.869
   ANN FORBS    0.10 5.00E-03           1     0.02   0.02  0.20  9.6034E-02
  4    PLPA     0.10 T        3.59E-02  1
   PER FORBS    1.30 6.50E-02           5     0.69   0.14  0.53  3.3132
  2    SPCO     1.30 6.50E-02 .467      5
  6   *OPPO    54.00 2.70               7

     TOTAL          17.38   100.00           25.720                 123.50

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA
  FULLER SEED PLOT
 RAIN GUAGE NO. 48    SHOSHO ANT    EXCL 4 AUGUST 27/70
OCT. 15 TO APR. 15 = 2.40
APR. 15 TO JULY 1  = 2.50
JULY 1 TO SEPT. 1  =  .23
SEPT. 1 TO OCT. 15 = 1.60
SEASON TOTAL       = 6.73
LONG TERM AVERAGE  = 8.37
```

```
1013   SHOSHO ANT NO EXCL 7 AUGUST 27/70  INSIDE NATIVE

                           NUMBER PLOTS = 20
                             PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.   WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL           BASE   SQ.FT. OCCUR-  AREA
               PER-   AREA            20            RENCES
               CENT


  6   *ARTR   173.00 8.65               9
  3    AGSM    10.40 .520      20.4    16     9.70   0.61   0.93  46.576
  3    BOGR    31.00 1.55      60.9     5     2.86   0.57   0.09  13.733
  3    POSE     2.00 .100      3.93     2     0.48   0.24   0.24  2.3048
  3    STCU     6.50 .325      12.8     4     3.36   0.84   0.52  16.134
  3    POFE     1.00 5.00E-02 1.96      1     0.09   0.09   0.09  .43215
  6   *OPPU     1.00 5.00E-02           1

    TOTAL            11.25    100.00         16.490                79.180

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA
     FULLER SEED PLOT
 RAIN GUAGE NO. 48    SHOSHO ANT NO EXCL 7 AUGUST 27/70
OCT. 15 TO APR. 15  =  2.40
APR. 15 TO JULY 1   =  2.50
JULY 1 TO SEPT. 1   =   .23
SEPT. 1 TO OCT. 15  =  1.60
SEASON TOTAL        =  6.73
LONG TERM AVERAGE   =  8.37
```

```
        1013    SHOSHO ANT SC EXCL 7 AUGUST 27/70  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL             BASE    SQ.FT.  OCCUR-  AREA
                PER-    AREA              20              RENCES
                CENT


  6    *ARTR    180.00 9.00                 11
  3     AGSM      7.60 .380     6.19        15      4.80    0.32   0.63   23.048
  3     BOGR     63.50 3.17     51.7         4      1.09    0.27   0.02   5.2338
  3     POSE     10.10 .505     8.22         9      2.54    0.28   0.25   12.196
  3     STCO     41.00 2.05     33.4         4     13.27    3.32   0.32   63.718
   ANN  FORBS     0.10 5.00E-03              1      0.01    0.01   0.10   4.8017E-02
  4     DEPI      0.10 T        8.14E-02     1
   PER  FORBS     0.50 2.50E-02              1      0.24    0.24   0.48   1.1524
  2     SPCU      0.50 2.50E-02 .407         1
  6    *PHHO     10.00 .500                  1
  6    *OPPU     13.00 .650                  2

    TOTAL             16.29    100.00          21.950                 105.40

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA
      FULLER SEED PLOT
 RAIN GUAGE NO. 48     SHOSHO ANT SO EXCL 7 AUGUST 27/70
OCT. 15 TO APR. 15  = 2.40
APR. 15 TO JULY 1   = 2.50
JULY 1 TO SEPT. 1   =  .23
SEPT. 1 TO OCT. 15  = 1.60
SEASON TOTAL        = 6.73
LONG TERM AVERAGE   = 8.37
```

```
          1013    SHOSHO ANT     EXCL 7 AUGUST 27/70  OUT     NATIVE

                           NUMBER PLOTS = 20
                            PLOT SIZE 1X1

PLANT   PLANT   TOTAL  AVE.    PERCENT  ABS.   TOTAL  AVE.    WGT./  LBS
CODE    NAME    TRANS  PER-    COMPO-   PLOT   WGT.   WGT.    UNIT   PER
                BASAL  CENT    SITION   FREQ.  GMS/20 /PLOT   BASAL  AC.
                AREA   BASAL            BASE   SQ.FT. OCCUR-  AREA
                PER-   AREA             20            RENCES
                CENT


  6     *ARTR   107.00 5.35                8
  3      AGSM    14.20 .710      7.85     15      9.80   0.65  0.69  47.057
  3      BOGR   136.00 6.80      75.2      9      9.00   1.00  0.07  43.215
  3      POSE     3.60 .180      1.99      6      0.45   0.08  0.13  2.1608
  3      STCO    26.00 1.30      14.4      6     12.54   2.09  0.48  60.213
  3      SIHY     1.00 5.00E-02 .553       1      0.97   0.97  0.97  4.6576
   ANN FORBS      0.10 5.00E-03            1      0.01   0.01  0.10  4.8017E-02
  4      LARE     0.10 T        5.53E-02   1
  6     *OPPO    50.00 2.50                8

     TOTAL            16.90     100.00          32.770                157.35

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA
      FULLER SEED PLOT
 RAIN GUAGE NO. 48     SHOSHO ANT     EXCL 7 AUGUST 27/70
OCT. 15 TO APR. 15  = 2.40
APR. 15 TO JULY 1   = 2.50
JULY 1 TO SEPT. 1   =  .23
SEPT. 1 TO OCT. 15  = 1.60
SEASON TOTAL        = 6.73
LONG TERM AVERAGE   = 8.37
```

```
1014   SHOSHO ANT NO EXCL 8 AUGUST 28/70  INSIDE NATIVE

                      NUMBER PLOTS = 20
                       PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.   TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT   WGT.    WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.  GMS/20  /PLOT   BASAL  AC.
               AREA   BASAL            BASE   SQ.FT.  OCCUR-  AREA
               PER-   AREA             20             RENCES
               CENT


  3    AGSM    13.30 .665      14.9      18    24.87   1.38   1.87  119.42
  3    BUGR    70.50 3.52      78.8       4     3.79   0.95   0.05  18.198
  3    POSE     4.10 .205      4.58       6     2.64   0.44   0.64  12.676
  3    STCU     1.50 7.50E-02 1.68        2     3.25   1.63   2.17  15.606
   ANN FORBS    0.10 5.00E-03             1     0.07   0.07   0.70  .33612
  4    PLPA     0.10 T         .112       1
  6   *OPPO    10.00 .500                 2

    TOTAL            4.98   100.00             34.620                166.23

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE
```

PRECIPITATION DATA

FULLER SEED PLOT

RAIN GUAGE NO. 48   SHOSHO ANT NO EXCL 8 AUGUST 28/70

OCT. 15 TO APR. 15 = 2.40
APR. 15 TO JULY 1 = 2.50
JULY 1 TO SEPT. 1 = .23
SEPT. 1 TO OCT. 15 = 1.60
SEASON TOTAL = 6.73
LONG TERM AVERAGE = 8.37

```
        1014   SHOSHU ANT SO EXCL 8 AUGUST 28/70  INSIDE NATIVE

                          NUMBER PLOTS = 20
                           PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.   GMS/20 /PLOT    BASAL  AC.
               AREA   BASAL            BASE    SQ.FT. OCCUR-   AREA
               PER-   AREA             20             RENCES
               CENT


  6    *ARTR    65.00 3.25               1
  3     AGSM     8.20 .410     4.60     13      13.90    1.07  1.70  66.744
  3     BOGR    68.50 3.42    38.4       5       4.25    0.85  0.06  20.407
  3     POSE     4.50 .225     2.53      4       1.63    0.41  0.36  7.8268
  3     STCO    52.00 2.60    29.2       4      10.63    2.66  0.20  51.042
  3     ORHY    45.00 2.25    25.3       1      10.50   10.50  0.23  50.418
  6    *OPPO    21.00 1.05               3

    TOTAL             13.21   100.00            40.910               196.44

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA
     FULLER SEED PLOT
 RAIN GUAGE NO. 48     SHOSHU ANT SO EXCL 8 AUGUST 28/70
OCT. 15 TO APR. 15  = 2.40
APR. 15 TO JULY 1   = 2.50
JULY 1 TO SEPT. 1   =  .23
SEPT. 1 TO OCT. 15  = 1.60
SEASON TOTAL        = 6.73
LONG TERM AVERAGE   = 8.37
```

```
          1014   SHOSHO ANT    EXCL 8 AUGUST 28/70  OUT    NATIVE

                          NUMBER PLOTS = 20
                           PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
               BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
               AREA   BASAL            BASE    SQ.FT.  OCCUR-  AREA
               PER-   AREA             20              RENCES
               CENT


  6    *ARTR     3.00 .150                1
  3     AGSM     5.90 .295     3.77      11     15.18    1.38  2.57  72.890
  3     BOGR   145.50 7.27     93.0      12     15.79    1.32  0.11  75.819
  3     POSE     2.00 .100     1.28       2      2.48    1.24  1.24  11.908
  3     STCO     3.00 .150     1.92       1      2.74    2.74  0.91  13.157
  6    *OPPO     6.00 .300                2

   TOTAL              8.27   100.00            36.190                173.77

     * NOT COMPUTED IN PERCENT COMPOSITION
     T - TRACE


PRECIPITATION DATA
      FULLER SEED PLOT
 RAIN GUAGE NO. 48    SHOSHO ANT    EXCL 8 AUGUST 28/70
OCT. 15 TO APR. 15  = 2.40
APR. 15 TO JULY 1   = 2.50
JULY 1 TO SEPT. 1   =  .23
SEPT. 1 TO OCT. 15  = 1.60
SEASON TOTAL        = 6.73
LONG TERM AVERAGE   = 8.37
```

```
        1015   SHOSHO ANT NO EXCL 9 AUGUST 25/70  INSIDE NATIVE

                           NUMBER PLOTS = 20
                             PLOT SIZE 1X1

PLANT   PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
                BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA   BASAL            BASE    SQ.FT.  OCCUR-  AREA
                PER-   AREA             20              RENCES
                CENT


  6    *ARTR    151.00 7.55               8
  3     AGSM      5.70 .285       8.19   16       6.73    0.42   1.18   32.315
  3     BUGR     57.00 2.85      81.9     3       2.15    0.72   0.04   10.324
  3     POSE      6.60 .330       9.48   10       2.44    0.24   0.37   11.716
  3     CAEL      0.30 1.50E-02 .431      3       0.71    0.24   2.37   3.4092
  6    *PHHO      2.00 .100               1
  6    *CPPO     18.00 .900               5

     TOTAL             12.03    100.00           12.030                  57.764

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA
FULLER SEED PLOT
 RAIN GUAGE NO. 48    SHOSHO ANT NO EXCL 9 AUGUST 25/70
OCT. 15 TO APR. 15 =  2.40
APR. 15 TO JULY 1  =  2.50
JULY 1 TO SEPT. 1  =   .23
SEPT. 1 TO OCT. 15 =  1.60
SEASON TOTAL       =  6.73
LONG TERM AVERAGE  =  8.37
```

```
        1015   SHOSHO ANT SO EXCL 9 AUGUST 27/70  INSIDE NATIVE

                           NUMBER PLOTS = 20
                            PLOT SIZE 1X1

PLANT  PLANT  TOTAL  AVE.    PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-    COMPO-   PLOT   WGT.   WGT.   UNIT   PER
              BASAL  CENT    SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
              AREA   BASAL            BASE   SQ.FT. OCCUR- AREA
              PER-   AREA             20            RENCES
              CENT


  6    *ARTR   80.00 4.00              7
  3     AGSM   13.20 .660      19.5   13     10.47   0.81   0.79  50.274
  3     BOGR   40.00 2.00      59.0    6      4.62   0.77   0.12  22.184
  3     POSE    2.50 .125      3.69    2      0.56   0.28   0.22  2.6889
  3     STCO    6.00 .300      8.85    3      5.15   1.72   0.86  24.729
  3     POFE    6.00 .300      8.85    1      2.62   2.62   0.44  12.580
   PER FURBS    0.10 5.00E-03          1      0.12   0.12   1.20  .57620
  2     SPCU    0.10 T         .147    1
  6    *OPPO   15.00 .750              5

     TOTAL           8.14    100.00          23.540                113.03

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA
FULLER SEED PLOT
 RAIN GUAGE NO.  48   SHOSHO ANT SO EXCL 9 AUGUST 27/70
OCT. 15 TO APR. 15 = 2.40
APR. 15 TO JULY 1  = 2.50
JULY 1 TO SEPT. 1  =  .23
SEPT. 1 TO OCT. 15 = 1.60
SEASON TOTAL       = 6.73
LONG TERM AVERAGE  = 8.37
```

```
           1015   SHOSHO ANT    EXCL 9 AUGUST 27/70  OUT    NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL  AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.   WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.   GMS/20 /PLOT   BASAL  AC.
               AREA   BASAL            BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA             20             RENCES
               CENT

  6    *ARTR   137.00 6.85              10
  3     AGSM     4.90 .245     15.6     17      8.90   0.52   1.82  42.735
  3     BOGR     9.00 .450     28.7      2      0.85   0.43   0.09  4.0814
  3     POSE    17.50 .875     55.7      8      2.76   0.35   0.16  13.253
  6    *PHHO     4.20 .210               2
  6    *OPPU    15.00 .750               3

    TOTAL             9.38    100.00            12.510                60.069

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA
FULLER SEED PLOT
 RAIN GUAGE NO. 48   SHOSHO ANT    EXCL 9 AUGUST 27/70
OCT. 15 TO APR. 15 = 2.40
APR. 15 TO JULY 1  = 2.50
JULY 1 TO SEPT. 1  =  .23
SEPT. 1 TO OCT. 15 = 1.60
SEASON TOTAL       = 6.73
LONG TERM AVERAGE  = 8.37
```

```
       1017   SHOSHO ANT NO EXC 11 AUGUST 28/70  INSIDE NATIVE

                          NUMBER PLOTS = 20
                            PLOT SIZE 1X1

PLANT   PLANT    TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME     TRANS   PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                 BASAL   CENT    SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
                 AREA    BASAL             BASE    SQ.FT.  OCCUR-  AREA
                 PER-    AREA              20              RENCES
                 CENT


 6    *ARTR     46.00 2.30                 10
 3     AGSM     24.60 1.23        36.0     19      20.69    1.09   0.84   99.347
 3     BOGR     38.50 1.92        56.4      5       2.59    0.52   0.07   12.436
 3     POSE      3.00 .150        4.39      3       1.03    0.34   0.34   4.9457
 3     STCO      1.00 5.00E-02 1.46         1       0.07    0.07   0.07   .33612
 3     ORHY      1.00 5.00E-02 1.46         1       1.29    1.29   1.29   6.1942
  PER FORBS      0.20 1.00E-02              2       0.19    0.10   0.95   .91232
 2     SPCU      0.20 1.00E-02 .293         2
 6    *OPPC      4.00 .200                  1

    TOTAL             5.92    100.00              25.860                  124.17

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA
   FULLER SEED PLOT
 RAIN GUAGE NO. 48     SHOSHO ANT NO EXC 11 AUGUST 28/70
OCT. 15 TO APR. 15  =  2.40
APR. 15 TO JULY 1   =  2.50
JULY 1 TO SEPT. 1   =   .23
SEPT. 1 TO OCT. 15  =  1.60
SEASON TOTAL        =  6.73
LONG TERM AVERAGE   =  8.37
```

```
        1017   SHOSHO ANT SC EXC 11 AUGUST 28/70  INSIDE NATIVE

                           NUMBER PLCTS = 20
                            PLOT SIZE 1X1

PLANT   PLANT    TOTAL   AVE.     PERCENT   ABS.     TOTAL   AVE.     WGT./   LBS
CODE    NAME     TRANS   PER-     COMPO-    PLOT     WGT.    WGT.     UNIT    PER
                 BASAL   CENT     SITION    FREQ.    GMS/20  /PLOT    BASAL   AC.
                 AREA    BASAL              BASE     SQ.FT.  OCCUR-   AREA
                 PER-    AREA               20               RENCES
                 CENT

  6     *ARTR     77.50  3.88                  7
  3      AGSM      2.20  .110       1.78      10      7.12    0.71    3.24    34.188
  3      BOGR    115.00  5.80       93.7      11      6.15    0.56    0.05    29.530
  3      POSE      2.00  .100       1.62       2      0.35    0.18    0.18    1.6806
  3      STCO      3.00  .150       2.42       1      2.12    2.12    0.71    10.180
   PER FORBS       0.60  3.00E-02              2      0.38    0.19    0.63    1.8246
  2      SPCO      0.60  3.00E-02 .485         2
  6     *UPPI     16.00  .800                  2

     TOTAL              10.87    100.00              16.120                   77.403

         * NOT COMPUTED IN PERCENT COMPOSITION
         T = TRACE


PRECIPITATION DATA
   FULLER SEED PLOT
RAIN GUAGE NO. 48      SHOSHO ANT SC EXC 11 AUGUST 28/70
OCT. 15 TO APR. 15  =   2.40
APR. 15 TO JULY 1   =   2.50
JULY 1 TO SEPT. 1   =    .23
SEPT. 1 TO OCT. 15  =   1.60
SEASON TOTAL        =   6.73
LONG TERM AVERAGE   =   8.37
```

```
        1017   SHOSHO ANT    EXC 11 AUGUST 28/70   OUT     NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT   PLANT    TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME     TRANS   PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                 BASAL   CENT    SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
                 AREA    BASAL             BASE    SQ.FT.  OCCUR-  AREA
                 PER-    AREA              20              RENCES
                 CENT


  6    *ARTR     46.10 2.30                  8
  3     AGSM      4.60 .230       3.92      18      10.03    0.56   2.18   48.161
  3     BOGR    110.00 5.50       93.9       7       4.96    0.71   0.05   23.816
  3     POSE      1.60 8.00E-02 1.37         4       1.28    0.32   0.80   6.1462
   ANN FORBS      0.10 5.00E-03              1       0.02    0.02   0.20   9.6034E-02
  4     PLPA      0.10 T          8.53E-02   1
   PER FORBS      0.90 4.50E-02              5       0.33    0.07   0.37   1.5846
  2     SPCO      0.90 4.50E-02 .768         5
  6    *OPPO     12.00 .600                  1

     TOTAL             8.77     100.00             16.620                  79.804

         * NOT COMPUTED IN PERCENT COMPOSITION
         T - TRACE
```

```
PRECIPITATION DATA
      FULLER SEED PLOT
 RAIN GUAGE NO. 48       SHOSHO ANT     EXC 11 AUGUST 28/70
OCT. 15 TO APR. 15   =  2.40
APR. 15 TO JULY 1    =  2.50
JULY 1 TO SEPT. 1    =   .23
SEPT. 1 TO OCT. 15   =  1.60
SEASON TOTAL         =  6.73
LONG TERM AVERAGE    =  8.37
```

```
            2009   SMILO  EXCL          JULY   28/70  INSIDE NATIVE

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT  PLANT  TOTAL  AVE.    PERCENT   ABS.   TOTAL  AVE.    WGT./  LBS
CODE   NAME   TRANS  PER-    COMPO-    PLOT   WGT.   WGT.    UNIT   PER
              BASAL  CENT    SITION    FREQ.  GMS/20 /PLOT   BASAL  AC.
              AREA   BASAL             BASE   SQ.FT. OCCUR-  AREA
              PER-   AREA              20            RENCES
              CENT


  6    *ARTR  316.50 15.8                13
  3     AGSM    3.20 .160       11.2     16     4.41   0.28  1.38  21.175
  3     POSE   19.60 .980       68.5     16     3.19   0.20  0.16  15.317
  3     STCO    2.70 .135       9.44      4     1.24   0.31  0.46  5.9541
  3     BOGR    0.50 2.50E-02 1.75        1     0.10   0.10  0.20  .48017
  3     SIHY    2.60 .130       9.09      3     1.27   0.42  0.49  6.0982
  6    *OPPO    2.00 .100                 1

     TOTAL           17.36    100.00           10.210                49.025

     * NOT COMPUTED IN PERCENT COMPOSITION
     T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 36   SMILO  EXCL          JULY   28/70
OCT. 15 TO APR. 15  = 2.54
APR. 15 TO JULY 1   = 3.15
JULY 1 TO SEPT. 1   =  .98
SEPT. 1 TO OCT. 15  =  .76
SEASON TOTAL        = 7.43
LONG TERM AVERAGE   = 8.27
```

```
        2009   SMILO  EXCL          JULY   28/70  OUT     NATIVE

                             NUMBER PLOTS = 20
                               PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
               BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
               AREA   BASAL            BASE    SQ.FT.  OCCUR-  AREA
               PER-   AREA             20              RENCES
               CENT


  6    *ARTR   128.10 6.40                7
  3     AGSM     1.20 6.00E-02 5.36       8      2.85    0.36   2.38   13.685
  3     POSE    17.60 .880      78.6     20      3.55    0.18   0.20   17.046
  3     STCU     0.10 T         .446      1      0.12    0.12   1.20   .57620
  3     SIHY     2.60 .130      11.6      3      1.52    0.51   0.58   7.2986
   ANN GRASS     0.10 5.00E-03            1      0.08    0.08   0.80   .38414
  5     BRTE     0.10 T         .446      1
   ANN FORBS     0.80 4.00E-02            7      0.84    0.12   1.05   4.0334
  4     DEPI     0.30 1.50E-02 1.34       3
  4     LARE     0.30 1.50E-02 1.34       3
  4     PLPA     0.20 1.00E-02 .893       2
  6    *OPPO     8.00 .400                1

    TOTAL             7.93     100.00          8.9600                  43.023

         * NOT COMPUTED IN PERCENT COMPOSITION
         T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 36    SMILO  EXCL            JULY   28/70
OCT. 15 TO APR. 15  =  2.54
APR. 15 TO JULY 1   =  3.15
JULY 1 TO SEPT. 1   =   .98
SEPT. 1 TO OCT. 15  =   .76
SEASON TOTAL        =  7.43
LONG TERM AVERAGE   =  8.27
```

```
        2009   SMILC   EXCL           JULY   28/70  INSIDE SPRAY

                           NUMBER PLOTS = 20
                             PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.   PERCENT  ABS.   TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-   COMPO-   PLOT   WGT.    WGT.    UNIT   PER
               BASAL  CENT   SITION   FREQ.  GMS/20  /PLOT   BASAL  AC.
               AREA   BASAL           BASE   SQ.FT.  OCCUR-  AREA
               PER-   AREA            20             RENCES
               CENT

                                      5
 6    *ARTR    23.70 1.18                    5.00    0.50    1.85   24.008
 3     AGSM     2.70 .135       3.39  10     0.93    0.12    0.21   4.4656
 3     PUSE     4.40 .220       5.52   8
 3     SIHY     1.00 5.00E-02 1.25     1     0.40    0.40    0.40   1.9207
 3     BOGR    50.00 2.50      62.7    1     8.22    8.22    0.16   39.470
 3     STCO    10.00 .500      12.5    6     7.39    1.23    0.74   35.485
  ANN GRASS    10.40 .520             16    11.82    0.74    1.14   56.756
 5     BRTE    10.40 .520      13.0   16
  ANN FORBS     1.10 5.50E-02          3     1.41    0.47    1.28   6.7704
 4     DEPI     1.10 5.50E-02 1.38     3
  PER FORBS     0.10 5.00E-03          1     0.05    0.05    0.50   .24008
 2     SPCO     0.10 T          .125   1
 6    *UPPU     5.00 .250              1

   TOTAL             5.42    100.00         35.220                  169.12

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO.36     SMILO  EXCL          JULY   28/70
OCT. 15 TO APR. 15  =  2.54
APR. 15 TO JULY 1   =  3.15
JULY 1 TO SEPT. 1   =   .98
SEPT. 1 TO OCT. 15  =   .76
SEASON TOTAL        =  7.43
LONG TERM AVERAGE   =  8.27
```

```
        2009   SMILO  EXCL          JULY   28/70  OUT    SPRAY

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT   PLANT   TOTAL  AVE.    PERCENT   ABS.    TOTAL  AVE.    WGT./   LBS
CODE    NAME    TRANS  PER-    COMPO-    PLOT    WGT.   WGT.    UNIT    PER
                BASAL  CENT    SITION    FREQ.   GMS/20 /PLOT   BASAL   AC.
                AREA   BASAL             BASE    SQ.FT. OCCUR-  AREA
                PER-   AREA              20             RENCES
                CENT


 6    *ARTR   107.00 5.35                  4
 3     AGSM     1.70 8.50E-02 7.87         8      1.31    0.16    0.77   6.2902
 3     POSE    12.20 .610      56.5       17      2.30    0.14    0.19   11.044
 3     SIHY     0.10 T         .463        1      0.46    0.46    4.60   2.2088
  ANN GRASS     0.20 1.00E-02              2      0.28    0.14    1.40   1.3445
 5     BRTE     0.20 1.00E-02 .926         2
  ANN FORBS     7.40 .370                 12     28.91    2.41    3.91   138.82
 4     SAKA     6.10 .305      28.2        9
 4     LARE     0.70 3.50E-02 3.24         3
 4     PLPA     0.30 1.50E-02 1.39         3
 4     DEPI     0.20 1.00E-02 .926         2
 4     CHAL     0.10 T         .463        1

    TOTAL            6.43    100.00              33.260                  159.70

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 36    SMILO  EXCL           JULY   28/70
OCT. 15 TO APR. 15  = 2.54
APR. 15 TO JULY 1   = 3.15
JULY 1 TO SEPT. 1   =  .98
SEPT. 1 TO OCT. 15  =  .76
SEASON TOTAL        = 7.43
LONG TERM AVERAGE   = 8.27
```

1005 SWEET WATER EXCL AUGUST 10/70 INSIDE ARNO

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARNU	244.00	12.2		9				
6	*CHVI	54.00	2.70		3				
6	*PHHO	7.50	.375		3				
6	*ARFR	2.00	.100		2				
6	*ARTR	1.00	5.00E-02		1				
3	POFE	1.50	7.50E-02	.956	2	0.32	0.16	0.21	1.5365
3	KOCR	8.10	.405	5.16	4	3.88	0.97	0.48	18.631
3	STCO	60.10	3.00	38.3	12	10.23	0.85	0.17	49.121
3	AGSM	1.00	5.00E-02	.637	1	0.58	0.58	0.58	2.7850
3	CAEL	0.10	T	6.37E-02	1	0.09	0.09	0.90	.43215
3	CAFI	70.00	3.50	44.6	4	5.76	1.44	0.08	27.658
PER	FORBS	16.10	.805		15	17.86	1.19	1.11	85.758
2	EURO	4.50	.225	2.87	13				
2	PSTE	0.50	2.50E-02	.319	1				
2	EROV	8.00	.400	5.10	1				
2	ASPU	3.00	.150	1.91	1				
2	AST	0.10	T	6.37E-02	1				
6	*TECA	63.00	3.15		5				
TOTAL			26.42	100.00		38.720			185.92

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 11 SWEET WATER EXCL AUGUST 10/70
OCT. 15 TO APR. 15 = 6.88
APR. 15 TO JULY 1 = 4.00
JULY 1 TO SEPT. 1 = .90*
SEPT. 1 TO OCT. 15 = .55*
SEASON TOTAL = 12.33
LONG TERM AVERAGE = 8.02

*Estimated

1005 SWEET WATER EXCL AUGUST 10/70 OUTSID ARNO

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
[illegible]	*ARNO	218.00	10.9		9				
[illegible]	*CHVI	8.00	.400		2				
[illegible]	*OPPO	16.00	.800		2				
[illegible]	*TECA	14.50	.725		2				
[illegible]	*PHHO	4.00	.200		1				
[illegible]	*ARTR	31.00	1.55		2				
[illegible]	AGSM	3.20	.160	5.41	10	3.76	0.38	1.18	18.054
[illegible]	STCO	30.50	1.52	51.5	12	7.51	0.63	0.25	36.061
[illegible]	KOCR	8.70	.435	14.7	10	3.06	0.31	0.35	14.693
[illegible]	CAFI	8.00	.400	13.5	2	0.67	0.34	0.08	3.2171
[illegible]	POSE	0.50	2.50E-02	.845	1	0.12	0.12	0.24	.57620
[illegible]	CAEL	1.00	5.00E-02	1.69	1	0.64	0.64	0.64	3.0731
PER	FORBS	7.20	.360		9	3.94	0.44	0.55	18.919
	PSTE	3.70	.185	6.25	8				
	AST	0.50	2.50E-02	.845	1				
	COPA	3.00	.150	5.07	1				
ANN	FORBS	0.10	5.00E-03		1	0.04	0.04	0.40	.19207
	GIL	0.10	T	.169	1				
	TOTAL		17.54	100.00		19.740			94.785

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 11 SWEET WATER EXCL AUGUST 10/70
OCT. 15 TO APR. 15 = 6.88
APR. 15 TO JULY 1 = 4.00
JULY 1 TO SEPT. 1 = .90*
SEPT. 1 TO OCT. 15 = .55*
SEASON TOTAL = 12.33
LONG TERM AVERAGE = 8.02

*Estimated

```
          1005    SWEET   WATER   EXCL    JULY   31/70  INSIDE ARTR

                            NUMBER PLOTS = 20
                              PLOT SIZE 1X1

PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
CODE    NAME    TRANS   PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                BASAL   CENT    SITION    FREQ.   GMS/20  /PLOT   BASAL   AC.
                AREA    BASAL             BASE    SQ.FT.  OCCUR-  AREA
                PER-    AREA              20              RENCES
                CENT


  6    *ARTR    187.00 9.35                  4
  6    *CHVI     50.70 2.53                  8
  6    *PHHO     16.20 .810                  4
  6    *TECA     65.00 3.25                  1
  3     STCO     33.70 1.68        35.0      9     13.24     1.47   0.39   63.574
  3     KOCR     13.30 .665        13.8     11      8.07     0.73   0.61   38.750
  3     AGSM      2.50 .125        2.60     12      3.21     0.27   1.28   15.413
  3     POSE      5.50 .275        5.72      4      0.98     0.25   0.18   4.7057
  3     CAEL      2.60 .130        2.70     10      2.26     0.23   0.87   10.852
  3     CAFI     11.00 .550        11.4      6      1.66     0.28   0.15   7.9708
   PER FORBS     27.60 1.38                 12      9.93     0.83   0.36   47.681
  2     CRIN     10.00 .500        10.4      2
  2     EROV      8.60 .430        8.94      3
  2     PSTE      5.70 .285        5.93      7
  2      AST      0.20 1.00E-02 .208         2
  2     ASMI      3.00 .150        3.12      1
  2     ALTE      0.10 T           .104      1

    TOTAL             20.76    100.00            39.350                  188.95

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO.11     SWEET   WATER   EXCL    JULY    31/70
OCT. 15 TO APR. 15  =6.88
APR. 15 TO JULY 1   =4.00
JULY 1 TO SEPT. 1   = .90*
SEPT. 1 TO OCT. 15  = .55*
SEASON TOTAL        =12.33
LONG TERM AVERAGE   = 8.02
     *Estimated
```

```
           1005    SWEET   WATER   EXCL    JULY    31/70  OUTSID ARTR

                            NUMBER PLOTS = 20
                              PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.     TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT     WGT.    WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.    GMS/20  /PLOT   BASAL  AC.
               AREA   BASAL            BASE     SQ.FT.  OCCUR-  AREA
               PER-   AREA             20               RENCES
               CENT


 6   *ARTR    97.00 4.85               4
 6   *ARNO     1.00 5.00E-02           1
 6   *ARFR     1.00 5.00E-02           1
 6   *CHIV    28.00 1.40               5
 3    AGSM     2.70 .135     3.02     10       4.96    0.50   1.84   23.816
 3    STCU    25.40 1.27     28.4     13       9.24    0.71   0.36   44.368
 3    KOCR     3.50 .175     3.91     10       2.26    0.23   0.65   10.852
 3    POSE    11.00 .550     12.3     11       2.05    0.19   0.19   9.8435
 3    CAFI    32.00 1.60     35.8     12       6.76    0.56   0.21   32.459
 3    CAEL     5.20 .260     5.82     13       4.45    0.34   0.86   21.368
 6   *PHHO     6.10 .305               5
  PER FORBS    9.60 .480               7       6.15    0.88   0.64   29.530
 2    ASMI     2.00 .100     2.24      2
 2    PSTE     7.60 .380     8.50      5

   TOTAL           11.13   100.00             35.870                 172.24

         * NOT COMPUTED IN PERCENT COMPOSITION
         T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 11   SWEET   WATER   EXCL    JULY    31/70
OCT. 15 TO APR. 15 =  6.88
APR. 15 TO JULY 1  =  4.00
JULY 1 TO SEPT. 1  =   .90*
SEPT. 1 TO OCT. 15 =   .55*
SEASON TOTAL       = 12.33
LONG TERM AVERAGE  =  8.02
```

*Estimated

```
                 2010    TWO     MILE     HILL     JULY    17/70   INSIDE NATIVE

                                    NUMBER OF PLOTS
                             COVER = 200, PRODUCTION = 20
                               PLOT SIZE 1 FT. X 10 FT.

       PLANT   PLANT   TOTAL   AVE.    PERCENT   ABS.    TOTAL   AVE.    WGT./   LBS
       CODE    NAME    TRANS   PER-    COMPO-    PLOT    WGT.    WGT.    UNIT    PER
                       BASAL   CENT    SITION    FREQ.   GMS/    /PLOT   BASAL   AC.
                       AREA    BASAL             BASE    200     OCCUR-  AREA
                       PER-    AREA              200     SQ.FT.  RENCES
                       CENT

         6  *ARTR     110.0   .550                  2
         1   ATNU    1911.6   9.56      93.0      122   309.30    2.54   0.16   148.52
         3   POSE      26.5   .132      1.29       22     8.74    0.40   0.33   4.1967
         3   SIHY       6.5   3.25E-02  .316       11     3.83    0.35   0.59   1.8390
          ANN GRASS    70.0   .350                189    79.26    0.42   1.13   38.058
         5   BRTE      70.0   .350      3.41      189
          ANN FORBS    37.6   .188                151    95.63    0.63   2.54   45.919
         4   HEAN       0.9   T           4.38E-02  9
         4   LFDE       0.5   T           2.43E-02  5
         4   LARE      35.0   .175        1.70    145
         4   DEPI       1.2   T           5.84E-02  3
          PER FORBS     2.2   1.10E-02              5     2.87    0.57   1.30   1.3781
         2   MACA       1.6   T           7.79E-02  3
         2   ASDR       0.6   T           2.92E-02  2
         6  *OPPO       0.5   T                     1

           TOTAL              10.8      100.00          499.63                 239.907

               * NOT COMPUTED IN PERCENT COMPOSITION
               T - TRACE


       PRECIPITATION DATA

        RAIN GUAGE NO. 39    TWO     MILE    HILL    JULY    17/70
       OCT. 15 TO APR. 15  = 3.37
       APR. 15 TO JULY 1   = 3.21
       JULY 1 TO SEPT. 1   =  .42
       SEPT. 1 TO OCT. 15  =  .95
       SEASON TOTAL        = 7.95
       LONG TERM AVERAGE   =10.18
```

```
              2010   TWO    MILE   HILL   JULY   17/70  OUT    NATIVE

                              NUMBER OF PLOTS
                       COVER = 200, PRODUCTION = 20
                         PLOT SIZE 1 FT. X 10 FT.

   PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.  TOTAL   AVE.    WGT./  LBS
   CODE   NAME   TRANS  PER-   COMPO-   PLOT  WGT.    WGT.    UNIT   PER
                 BASAL  CENT   SITION   FREQ. GMS/    /PLOT   BASAL  AC.
                 AREA   BASAL           BASE  200     OCCUR-  AREA
                 PER-   AREA            200   SQ.FT.  RENCES
                 CENT

    1   ATNU    2220.5  11.1       95.3     129  304.82   2.36  0.14  146.37
    3   PESE      30.5  .152       1.31      41    3.77   0.09  0.12  1.8102
    3   SIHY       6.6  3.30E-02   .283       9    4.03   0.45  0.61  1.9351
     ANN GRASS    21.3  .106                149   32.41   0.22  1.52  15.562
    5    BRTE     21.3  .106       .914     149
     ANN FORBS    28.1  .140                124   71.08   0.57  2.53  34.130
    4    HEAN      1.8  T          7.73E-02  18
    4    LARE     25.7  .128       1.10     110
    4    DEPI      0.1  T          T          1
    4    LEDE      0.4  T          1.72E-02   4
    4    CHAL      0.1  T          T          1
     PER FORBS    22.6  .113                 43   64.53   1.50  2.86  30.985
    2    MACA     22.4  .112       .962      41
    2    ALTE      0.2  T          T          2
    6   *OPPO     20.0  .100                  2

        TOTAL           11.7       100.00         480.64               230.789

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


 PRECIPITATION DAT

  RAIN GUAGE NO. 39     TWO     MILE    HILL    JULY    17/70
 OCT. 15 TO APR. 15  = 3.37
 APR. 15 TO JULY 1   = 3.21
 JULY 1 TO SEPT. 1   =  .42
 SEPT. 1 TO OCT. 15  =  .95
 SEASON TOTAL        = 7.95
 LONG TERM AVERAGE   =10.18
```

```
          1006   UPPER  GOVT   DRAW   AUGUST 24/70  INSIDE NATIVE

                              NUMBER PLOTS = 20
                               PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.    TOTAL  AVE.    WGT./   LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT    WGT.   WGT.    UNIT    PER
               BASAL  CENT    SITION   FREQ.   GMS/20 /PLOT   BASAL   AC.
               AREA   BASAL            BASE    SQ.FT. OCCUR-  AREA
               PER-   AREA             20             RENCES
               CENT


 6    *ARTR   385.00 19.3              15
 3     AGSM    28.60 1.43      32.8    20      28.30   1.42  0.99  135.89
 3     POFE    33.50 1.67      38.4    14       9.77   0.70  0.29  46.913
 3     KOCR    24.00 1.20      27.5     8       6.64   1.08  0.36  41.487
  PER FORBS     1.20 6.00E-02           3       0.96   0.32  0.80  4.6096
 2     AGGL     1.00 5.00E-02 1.15      2
 2     MUDI     0.10 T         .115     1
 2     ALTE     0.10 T         .115     1
 6    *PHHO    10.00 .500               4

    TOTAL            24.12   100.00            47.670                 228.90

     * NOT COMPUTED IN PERCENT COMPOSITION
     T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 9       UPPER  GOVT   DRAW.  AUGUST 24/70
OCT. 15 TO APR. 15 = 4.03
APR. 15 TO JULY 1  = 3.72
JULY 1 TO SEPT. 1  -  .92
SEPT. 1 TO OCT. 15 =  .82
SEASON TOTAL       = 9.49
LONG TERM AVERAGE  = 8.16
```

```
          1006    UPPER  GOVT   DRAW   AUGUST 24/70  OUT    NATIVE

                          NUMBER PLOTS = 20
                           PLOT SIZE 1X1

PLANT  PLANT  TOTAL  AVE.   PERCENT  ABS.   TOTAL   AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-   COMPO-   PLOT   WGT.    WGT.   UNIT   PER
              BASAL  CENT   SITION   FREQ.  GMS/20 /PLOT   BASAL  AC.
              AREA   BASAL           BASE   SQ.FT. OCCUR-  AREA
              PER-   AREA            20            RENCES
              CENT


  6   *ARTR  209.50 10.5             11
  3    AGSM   25.10 1.25      26.7   19     19.56    1.03  0.78  93.921
  3    POFE   61.50 3.07      65.4   20      9.14    0.46  0.15  43.887
  3    KOCR    6.00 .300      6.38    4      4.38    1.10  0.73  21.031
   ANN FORBS   0.60 3.00E-02          6      0.39    0.07  0.65  1.8727
  4    PLPA    0.60 3.00E-02 .638     6
   PER FORBS   0.80 4.00E-02          4      0.54    0.14  0.68  2.5929
  2    SPCO    0.20 1.00E-02 .213     2
  2    ERPU    0.50 2.50E-02 .532     1
  2    MUDI    0.10 T        .106     1
  6   *PHHO    3.00 .150              2

    TOTAL          14.33    100.00          34.010               163.31

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 9     UPPER  GOVT   DRAW   AUGUST 24/70
OCT. 15 TO APR. 15  =  4.03
APR. 15 TO JULY 1   =  3.72
JULY 1 TO SEPT. 1   =   .92
SEPT. 1 TO OCT. 15  =   .82
SEASON TOTAL        =  9.49
LONG TERM AVERAGE   =  8.16
```

```
          1006   UPPER  GOVT   DRAW   AUGUST 24/70  INSIDE SPRAY

                            NUMBER PLOTS = 20
                              PLOT SIZE 1X1

PLANT  PLANT  TOTAL  AVE.    PERCENT  ABS.    TOTAL   AVE.    WGT./   LBS
CODE   NAME   TRANS  PER-    COMPO-   PLOT    WGT.    WGT.    UNIT    PER
              BASAL  CENT    SITION   FREQ.   GMS/20  /PLOT   BASAL   AC.
              AREA   BASAL            BASE    SQ.FT.  OCCUR-  AREA
              PER-   AREA             20              RENCES
              CENT


  3    AGSM   55.00 2.75       49.5     20     35.81    1.79   0.65  171.95
  3    POSE    1.00 5.00E-02 .900        2      0.67    0.34   0.67  3.2171
  3    POFE   29.50 1.47       26.6     18     11.62    0.65   0.39  55.796
  3    KOCR   12.50 .625       11.3      7      5.49    0.78   0.44  26.361
  3    STCO    6.00 .300       5.40      3      1.91    0.64   0.32  9.1712
  3    AGCR    7.00 .350       6.30      1     10.24   10.24   1.46  49.169
   ANN FORBS   0.10 5.00E-03             1      0.04    0.04   0.40  .19207
  4    PLPA    0.10 T          9.00E-02  1
  6   *OPPO    2.50 .125                 2

     TOTAL          5.68     100.00            65.780                315.86

       * NOT COMPUTED IN PERCENT COMPOSITION
       T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 9    UPPER   GOVT   DRAW   AUGUST 24/70
OCT. 15 TO APR. 15  =  4.03
APR. 15 TO JULY 1   =  3.72
JULY 1 TO SEPT. 1   =   .92
SEPT. 1 TO OCT. 15  =   .82
SEASON TOTAL        =  9.49
LONG TERM AVERAGE   =  8.16
```

```
            1006   UPPER  GOVT   DRAW   AUGUST 24/70  INSIDE SPRAY

                              NUMBER PLOTS = 20
                                PLOT SIZE 1X1

PLANT  PLANT  TOTAL  AVE.    PERCENT  ABS.   TOTAL  AVE.   WGT./  LBS
CODE   NAME   TRANS  PER-    COMPO-   PLOT   WGT.   WGT.   UNIT   PER
              BASAL  CENT    SITION   FREQ.  GMS/20 /PLOT  BASAL  AC.
              AREA   BASAL            BASE   SQ.FT. OCCUR- AREA
              PER-   AREA             20            RENCES
              CENT


  3    AGSM    55.00 2.75       49.5      20     35.81    1.79   0.65  171.95
  3    POSE     1.00 5.00E-02 .900         2      0.67    0.34   0.67  3.2171
  3    POFE    29.50 1.47       26.6      18     11.62    0.65   0.39  55.796
  3    KOCH    12.50 .625       11.3       7      5.49    0.78   0.44  26.361
  3    STCO     6.00 .300       5.40       3      1.91    0.64   0.32  9.1712
  3    AGCR     7.00 .350       6.30       1     10.24   10.24   1.46  49.169
   ANN FORBS    0.10 5.00E-03              1      0.04    0.04   0.40  .19207
  4    PLPA     0.10 T          9.00E-02   1
  6   *OPPO     2.50 .125                  2

    TOTAL            5.68     100.00             65.780                315.86

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 9     UPPER  GOVT   DRAW   AUGUST 24/70
OCT. 15 TO APR. 15 =  4.03
APR. 15 TO JULY 1  =  3.72
JULY 1 TO SEPT. 1  =   .92
SEPT. 1 TO OCT. 15 =   .82
SEASON TOTAL       =  9.49
LONG TERM AVERAGE  =  8.16
```

```
          1006   UPPER   GOVT   DRAW   AUGUST 24/70  OUT    SPRAY

                         NUMBER PLOTS = 20
                          PLOT SIZE 1X1

PLANT  PLANT   TOTAL  AVE.    PERCENT  ABS.   TOTAL   AVE.    WGT./  LBS
CODE   NAME    TRANS  PER-    COMPO-   PLOT   WGT.    WGT.    UNIT   PER
               BASAL  CENT    SITION   FREQ.  GMS/20  /PLOT   BASAL  AC.
               AREA   BASAL            BASE   SQ.FT.  OCCUR-  AREA
               PER-   AREA             20             RENCES
               CENT


 6    *ARTR    58.00 2.90               3
 3     AGSM    12.00 .600       12.4   19       8.69   0.46  0.72  41.727
 3     POSE    45.00 2.25       46.4   18       4.47   0.25  0.10  21.464
 3     POFE    10.50 .525       10.8    7       2.21   0.32  0.21  10.612
 3     STCO    21.00 1.05       21.6    6      14.49   2.42  0.69  69.577
 3     KOCR     2.50 .125       2.58    4       0.88   0.22  0.35  4.2255
  ANN FORBS     1.60 8.00E-02           8       0.44   0.06  0.28  2.1127
 4     PLPA     1.60 8.00E-02 1.65      8
  PER FORBS     4.40 .220               8       1.15   0.14  0.26  5.5219
.2     SPCO     0.10 T         .103     1
 2     MUDI     0.30 1.50E-02 .309      3
 2     ERPU     4.00 .200       4.12    4
 6    *PHHO     6.50 .325               4
 6    *OPPO     2.00 .100               1

    TOTAL            4.18   100.00         32.330                    155.24

      * NOT COMPUTED IN PERCENT COMPOSITION
      T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 9    UPPER  GOVT   DRAW   AUGUST 24/70
OCT. 15 TO APR. 15 =  4.03
APR. 15 TO JULY 1  =  3.72
JULY 1 TO SEPT. 1  =   .92
SEPT. 1 TO OCT. 15 =   .82
SEASON TOTAL       =  9.49
LONG TERM AVERAGE  =  8.16
```

```
              2006    WEST    PASTUR EXCL    JULY    7/70   INSIDE NATIVE

                              NUMBER OF PLOTS
                        COVER = 200, PRODUCTION = 20
                         PLOT SIZE 1 FT. X 10 FT.

PLANT   PLANT   TOTAL   AVE.       PERCENT    ABS.    TOTAL    AVE.    WGT./  LBS
CODE    NAME    TRANS   PER-       COMPO-     PLOT    WGT.     WGT.    UNIT   PER
                BASAL   CENT       SITION     FREQ.   GMS/     /PLOT   BASAL  AC.
                AREA    BASAL                 BASE    200      OCCUR-  AREA
                PER-    AREA                  200     SQ.FT.   RENCES
                CENT

  1    ATNU     609.1   3.05         42.4      101    184.98    1.83   0.30   88.822
  1    ARSP      91.5   .457         6.36       21     11.25    0.54   0.12   5.4019
  1    ARPE       5.5   2.75E-02    .332         4      1.08    0.27   0.20   .51858
  6   *OPPO     220.0   1.10                    64
  3    POSE     162.8   .814         11.3       94     46.15    0.49   0.28   22.166
  3    ORHY     124.9   .624         8.68       61     95.37    1.56   0.76   45.794
  3    SIHY     328.0   1.64         22.8      115    315.49    2.74   0.96   151.49
  3    SPCR      74.0   .370         5.15       66     15.03    0.23   0.20   7.2169
  3    BOGR      16.0   8.00E-02     1.11        1      4.36    4.36   0.27   2.0935
   ANN FORBS      4.3   2.15E-02                33      3.24    0.10   0.75   1.5557
  4    LARE       3.0   1.50E-02    .209        26
  4    DEPI       0.3   T           2.09E-02     3
  4    POAV       0.5   T           3.48E-02     5
  4    PLPA       0.2   T           1.39E-02     2
  4    LEDE       0.2   T           1.39E-02     2
  4    CHAL       0.1   T           T            1
   PER FORBS     22.1   .110                    71     22.79    0.32   1.03   10.943
  2     UMB      19.7   9.85E-02     1.37       56
  2    ALTE       2.1   1.05E-02    .146        17
  2     AST       0.3   T           2.09E-02     3

     TOTAL                .3        100.00            699.74                  335.994

        * NOT COMPUTED IN PERCENT COMPOSITION
        T - TRACE


PRECIPITATION DATA

 RAIN GUAGE NO. 13      WEST    PASTUR EXCL    JULY    7/70
OCT. 15 TO APR. 15  =  1.30*
APR. 15 TO JULY 1   =  2.50
JULY 1 TO SEPT. 1   =   .95
SEPT. 1 TO OCT. 15  =   .00
SEASON TOTAL        =  4.75
LONG TERM AVERAGE   =  6.48
```

Estimated *

2006 WEST PASTUR EXCL JULY 06/70 OUTSID NATIVE

NUMBER OF PLOTS
COVER = 200, PRODUCTION = 20
PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 200	TOTAL WGT. GMS/ 200 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	ATNU	311.5	1.56	17.5	74	95.83	1.30	0.31	46.015
1	ARSP	28.5	.142	1.61	6	6.10	1.02	0.21	2.9290
1	ARPE	1273.7	6.37	71.7	163	340.28	2.09	0.27	163.39
6	*OPPO	129.1	.645		40				
3	ORHY	41.8	.209	2.35	46	19.27	0.42	0.46	9.2529
3	SIHY	48.6	.243	2.74	34	32.11	0.94	0.66	15.418
3	SPCR	18.8	9.40E-02	1.06	17	4.39	0.26	0.23	2.1079
3	POSE	43.5	.217	2.45	35	10.17	0.29	0.23	4.8833
3	BOGR	3.0	1.50E-02	.169	1	0.82	0.82	0.27	.39374
	ANN FORBS	0.2	1.00E-03		2	0.03	0.02	0.15	1.4405E-02
4	LARE	0.1	T	T	1				
4	LEDE	0.1	T	T	1				
	PER FORBS	6.1	3.05E-02		16	3.34	0.21	0.55	1.6038
2	UMB	5.5	2.75E-02	.310	14				
2	ALTE	0.6	T	3.38E-02	2				
	TOTAL		9.5	100.00		512.34			246.010

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRECIPITATION DATA

RAIN GUAGE NO. 13 WEST PASTUR EXCL JULY 06/70
OCT. 15 TO APR. 15 = 1.30*
APR. 15 TO JULY 1 = 2.50
JULY 1 TO SEPT. 1 = .95
SEPT. 1 TO OCT. 15 = .00
SEASON TOTAL = 4.75
LONG TERM AVERAGE = 6.48

*Estimated

Bureau of Land Management
Library
Bldg. 50, Denver Federal Center
Denver, CO 80225

Form 1279-3
(June 1984)
BORROWER

GB
611
.A74
1970

Arid Land Ecology
Progress Report.

DATE LOANED
BORROWER

USDI - BLM